DOCUMENT RESUME

ED 129 655 95 SO 009 417

AUTHOR	Dilling, David R.
TITLE	Studies in the Spirit of Seventy-Six.
INSTITUTION	Wisconsin State Dept. of Public Instruction, Madison.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	76
NOTE	61p.
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	Behavior Patterns; Class Activities; Death; *Family (Sociological Unit); *Futures (of Society); History Instruction; *Humanistic Education; *Individual Characteristics; Individual Development; Inquiry Training; Interdisciplinary Approach; Matrices; Models; Secondary Education; Skill Development; Socialization; Social Studies; Teaching Techniques; *Values; Workbooks
IDENTIFIERS	Bicentennial; Elementary Secondary Education Act Title V; ESEA Title V

ABSTRACT

Classroom activities for directing student inquiry into the role of the individual in the future are provided in this text. Activities are presented within a framework of respect for and understanding of the past and the present. A matrix for the study of the individual as a whole person is presented. The matrix is devised along the present, past, and future connections and interactions between the individual and the family, local community, state/nation, world, and community and along the dimensions of mass communication media and transpersonal relationships. Numerous workshop guides which are intended to help students develop necessary critical skills, develop sensitivity to their historical heritage, and become aware of the alternatives and challenges of the future are provided. Activities connected with two aspects of the model, the family and the future, are presented. The first unit, "The Individual in a Family," examines the family as a resource for learning about society by studying role identification, pioneer family life, and family norms. The second unit, "The Individual in the Emerging Present," introduces some simple techniques for thinking about the future and concentrates particularly on future values for today's social studies curriculum. Games, charts, models, simulations, projects, nongraded quizzes, surveys, opinion measurement devices, "what if" exercises, and an epitaph on death and dying are included. (Author/DB)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

Studies in the Spirit of Seventy-Six

By David R. Dilling, Consultant
Indiana Department of Public Instruction
Harold H. Negley, Superintendent

ED129655

SP009417

"Education in this day and age is a dynamic, ever-changing thing; it provides the motivation to keep up with the activities of today . . . and to be ready to involve yourself not just in what's happening today or in what happened ten years ago, but rather in what will happen tomorrow."

Neil Armstrong

Interstate Project for State Planning and Program Consolidation

Participating States	Chief State School Officers	Policy Committee
Illinois	Dr. Joseph M. Cronin	Mr. Emmett Slingsby
Indiana	Dr. Harold H. Negley	Mr. Ray Slaby
Michigan	Dr. John Porter	Mr. Alex Canja
Minnesota	Mr. Howard Casmey	Mr. Gregory J. Waddick
Ohio	Dr. Martin W. Essex	Dr. Paul Spayde
Wisconsin	Dr. Barbara Thompson	Dr. Archie Buchmiller

Dr. Robb L. Shanks, Project Director
Dexter Magers, USOE Project Coordinator

Project Office: Wisconsin Department of Public Instruction, 126 Langdon St., Madison, WI 53702

Financed by funds provided under the Elementary and Secondary Education Act of 1965 (Public Law 89-10, Title V, Sec. 505) and the sponsoring states. The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

Several articles have been reprinted in the text below for background data or illustrative purposes. Material contained in these articles does not necessarily reflect the viewpoints or attitudes of the writer, the Interstate Policy Committee, or their respective educational agencies.

"The Individual in the Spirit of '76"

Had I to carve an inscription on my grave I would ask for none other than "The Individual."

Soren Kierkegaard
Journals, 723

This chapter will introduce the Studies and provide an explanation of the theory used in the subsequent chapters.

For generations educators have professed to be interested in teaching "the whole person." This project begins by questioning the meaning of the "the whole person." Clearly, persons are extraordinarily complex beings. Is there a way to conceptualize a personal being as a whole? Can any set of guidelines be devised that will direct our inquiry properly in the direction of the whole person?

"Studies in the Spirit of '76" does not presume to have captured this elusive wholeness. What is offered here is a model which we believe does in fact *point toward* the whole person. In the succeeding chapters of this packet two aspects of that model which seem to deserve emphasis have been developed as workshop guides. The purpose of these guides is to stress aspects of the "whole person" teachers may have neglected.

The Origin of These Studies

"Studies in the Spirit of '76" originated with the policy committee of the Upper Midwest Regional Interstate Project (UMRIP). UMRIP is a consortium of state education agencies consisting of Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin. Early in 1975 this group appropriated a part of their resources for a bicentennial-related endeavor. Inasmuch as the states involved were essentially coextensive with the Old Northwest Territory, the Northwest Ordinance of 1787 and its predecessor, the Land Ordinance of 1785, became the points of departure for the bicentennial project supported by the UMRIP committee. "Studies in the Spirit of '76" is the result of that commitment.

On June 9-10, 1975, representatives of the sponsoring state educational agencies met in Chicago to plan an effort that would 1. Harmonize with the established themes of the American Revolution Bicentennial Administration, 2. Contribute to the fulfillment of specific educational needs and 3. Provide a framework for a series of useful, ongoing studies. Present at that meeting were Roger Wangen of St. Paul, MN, Ann Pictor of Springfield, IL, Leslie Davis of Madison, WI, David Dilling of West Lafayette, IN, Dewey Wahl and John Harrold, both of Indianapolis, IN.

The determination of this group was to provide a document that would make an immediate classroom contribution. What emerged from the Chicago conference was a model in the form of a cross-impact matrix emphasizing the wholeness of persons in all of their activities and social relationships in the past, present and future.

The model and workshop guides presented herewith are a first attempt to add substance to the person-matrix. We invite you and your classes to join with us in the further development of this open-ended project.

What is "The Spirit of '76?"

In 1876, Ohio artist Archibald Willard painted 14 versions of the famous "Spirit of '76" for the American Centennial celebration. Since then the expression "the Spirit of '76" has been used in so many different ways it now means virtually nothing unless it is invested with a new specifically designated meaning. During the Bicentennial celebration there appears to be no end to the exploitation of the phrase. One bottled liquor selling for $17.76 certainly seems justified in calling itself the Spirit of '76. The advertising people have had little difficulty in varying this theme.

To us, the Spirit of '76 describes our resolve

to confront our present situation intelligently through 1. The development of the necessary critical skills, 2. A sensitivity to our historical heritage, and 3. An awareness of the alternatives and challenges of the future.

Without gilding the revolutionary period, we believe that we can see such a critical spirit at work. Historian Samuel Eliot Morison aptly describes the impact of having political leaders with a keen sense of world history. The American Revolution was unique among wars for independence in that those who wrote the new constitutions had a wide knowledge of political history, sound experience in democratic government and superb abilities in relating their experiences and historical insights to the urgent tasks at hand. As Morison puts it in his *Oxford History of the American People:*

All modern history proves that it is easy enough for a determined minority to pull down a government, but exceedingly difficult to reconstruct, to reestablish law and order on new foundations . . . . Dozens of nations since World War II have won independence — but how many have secured liberty?

According to the natural history of revolutions, we would expect the American Confederation to fall apart, or that the army or some outstanding leader would set up a military despotism. What actually happened was the establishment of government under law. The reasons for this noteworthy outcome lie, first, in the political experience of Americans. As Emerson wrote, "We began with freedom." Secondly, they believed in the importance of political institutions as a guarantee of liberty.

The principles of the American Revolution were essentially conservative; the leaders were thinking of preserving and securing the freedom they already enjoyed rather than, like the Russians, building something new and different.

Thus, when the Americans risked law and order to attain liberty, they made every effort to win them back.

Most of the American state and federal constitutions were the work of college-educated men who had studied political theory in Aristotle, Plato, Cicero, Polybius, and other ancient writers and had given deep thought to problems of political reconstruction. Men such as George Mason and Thomas Jefferson, James Madison, John Adams and James Bowdoin knew exactly what they were doing. And most of them were relatively young men.

Similarly, we understand the Spirit of '76 as an openness to the future. The Northwest Ordinance and the Land Ordinance were future-oriented documents. They provided for the creation of new states and their addition to the Union on an equal footing with the Original Thirteen. They supplied public land for educational purposes and enjoined equitable dealings with the Native Americans. They established a framework for land tenure and transfer. They proscribed slavery. They provided religious and other freedoms under a system of legal government.

Nevertheless, neither these documents nor any of our venerated national founders were able to foresee the synergistic character of life in the nineteenth and twentieth centuries. Who in 1776 could possibly have anticipated a gross national product of one trillion dollars annually as has occurred in the United States within that bicentennial? R. Buckminster Fuller expressed it this way in his *Operating Manual for Spaceship Earth:*

Our most reliable, visionary and well-informed great-grandfathers of 1810 could not have foreseen that in a meager century and one-half . . . the human life-span would be trebled, that the yearly real income of the individual would be tenfolded, that the majority of diseases would be banished and human freedom of realized travel onehundredfolded; that human beings would be able to whisper effortlessly in one another's ear from anywhere around the world and at a speed of seven hundred million miles an hour, their audibility clearly reaching to the planet Venus, and that human vision around Earth's spherical deck would be increased to see pebbles and grains of sand

on the moon.

"Studies in the Spirit of '76" seeks to assist persons in learning who they are though a critical probing of historical roots, where they are through an experiential review of present circumstances and where they are going by creative and imaginative planning for the future. This is the Spirit of '76 toward which we are striving.

A Person-Matrix

Our model for the study of the individual as a whole person is represented by the person-matrix (figure 1). Several aspects of the matrix require an explanation.

1. First, there are important senses in which persons are *temporal* beings. Who I am — the very meaning of my existence — is partly determined by my personal and cultural history and partly determined by what I am to be. Furthermore, time itself is understood by some philosophers to be less a category of reality than a function of human memory and anticipation. In any case, there is no doubt that temporality is a crucial component of human wholeness. Therefore, every cell (numbered block) shown on the face of the matrix is understood as a continuum through time. The matrix is three-dimensional with time as the third dimension. One immediate corollary of the time dimension is its suggestion that the quest for the whole person will entail an even, balanced treatment of the individual's past, present and future. This suggestion alone, if taken seriously, could have dramatic implications for education.

2. The inner core of the matrix (cells 1-25) presents a fairly typical arrangement of social contexts and life-activities. The social contexts increase in scope from the single individual to the world community. The set of life activities is somewhat arbitrary. Simply to make manageable units of things we classified human behavior according to education, work, leisure, religion and all other activities of a social or political nature.

3. For the purposes of this project, the inner core of the matrix (cells 1-25) would be far more than sufficient. However, our goal is to concentrate on the whole person and we have the uneasy feeling that cells 1-25 simply do not encompass the whole person. Frankly, it is not only the theologians who sense that persons are infinite beings. Therefore, we add to the matrix a set of rather esoteric outer dimensions which seem to trail off into the infinite just as do the past and future time dimensions.

a. The first of these, represented by cells 26-30, considers the current state of mass communications media to be qualitatively different from other technological developments. Television, for example, is a unique and only dimly understood social phenomenon. The electronic media are, in the view of Marshall McLuhan, responsible for the fact that man now lives in a global village and is returning to the values and perceptions of a preliterate culture. In the words of McLuhan, "In the electric age, when our central nervous system is technologically extended to involve us in the whole of mankind and to incorporate the whole of mankind in us, we necessarily participate, in depth, in the consequences of our every action. It is no longer possible to adopt the aloof and dissociated role of the literate Westerner."

b. Yet another dimension (cells 31-35) is added to account for the level of human socialization which is, so far, beyond the realm of empirical observation — or at least has escaped the notice of empirically-minded Western observers. We have called these "trans-personal relationships" in deference to the recent advent of "trans-personal psychology." Trans-personal literally means "beyond the person". Yet we do not refer to anything *beyond* the person at all. We are concerned with the dimension of a person and a kind of a social relationship that is not directly observable — the subjective and affective qualities of human nature. What is opening up to us here is the realization that the typical Western view of man, stemming from Aristotle, as rational animal — Homo sapiens — is

future
present
past
[Life Activities]
[Socializing Contexts]
Individual
Family
Local Community
State/Nation
World Community
Mass Communications Media
Trans-Personal Relationships
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
Education
Work
Leisure
Religion
Socio-Political Action
Symbolizing Activities

Figure 1

not a whole view of man. There is in man the nonrational as well as the rational; the Dionysian as well as the Apollonian; the right hemisphere as well as the left hemisphere; the Yin as well as the Yang; the mystical as well as the existential; the Thou as well as the It. What is remarkable is the presence of this horizon in the very midst of the Western scientific community as indicated, for example, by the existence of the *Journal of Humanistic Psychology*. Here is a forum which describes itself as a "third force" in contemporary psychology and professes interest in such topics as "love, creativity, self, growth, organism, basic need-gratification, self-actualization, higher values, being, becoming, spontaneity, play, humor, affection, . . . transcendental experience, peak experience, courage and related topics." We are looking toward these outer reaches of human nature. Thus, cell 31 might prompt the question: What has *love* to do with *education*? Cell 33 might prompt the question: What has self-actualization to do with one's use of leisure time? And such questions are certainly germane to the pursuit of the whole person.

c. An outside column has been added to the matrix (cells 36-42) to account for a kind of human activity not adequately represented in the matrix' core. We call these "symbolizing activities." The creation and use of *language* is a symbolizing activity. The discovery and use of logic and mathematics is a symbolizing activity. The activities of art, religion and philosophy (in their more abstract forms) are symbolizing activities. In Mortimer Adler's classic work *The Difference of Man and the Difference It Makes*, the "difference" can be simply stated as a *symbolizing* difference.

4. To use the matrix, one simply asks: What can I learn about human persons at the intersection of a given social context and a given life-activity? For example, cell 6 might suggest the question: What is the nature of education at the social level of the family? This is the sort of question addressed in the first of the workshop guides to follow.

It is important to note, however, that the matrix is useful only as a sort of prod to get us moving in a given direction or as a checklist to see what sorts of things we are neglecting. If we insist on working at a given cell in isolation, without overlap on other cells, we will defeat the purpose of the matrix. For then we will indeed have fractionalized the person rather than integrated the individual. The matrix, in other words, is an interrelated structural whole — just as are persons.

"The Individual in a Family"

The first thing to remember about the American family is that it doesn't exist.

The idea of the American family and what it should be is, after all, the most powerful image used by government and business to promote the values and goals of government and business, except for the image of the free-market economy, which, of course, also doesn't exist.

— Louise Kapp Howe
The Future of the Family

The purpose of this unit is to examine the family as a resource for learning about society.

The family is a resource that all of us, in some way or another, have at our disposal through solid, first-hand experience.

To limit the scope of this inquiry, emphasis will be given to one aspect of family life, namely, education.

To enlarge the possibilities of our vision, let us think about families past and families yet to be. Specifically, what has my family of the past been, and what will my family of the future be?

Is it possible for me to anticipate my family of the future?

Is it possible for me to create my family of the future?

An Introductory Activity

This unit suggests that the family is a useful resource for social study. Let's begin by testing that suggestion with the following exercise.

Let each member of your group take a card with one of the characterizations which begin on page 8.

Enough of these cards should be prepared ahead of time so that there is one for each person in the group. If more characterizations are needed the group itself can prepare them. The idea is to describe a variety of different person roles in a variety of different kinds of family situations.

Assign these cards to group members by reversing the sex roles. That is, to each male member of the group assign a card which describes a female person; to each female member of the group, assign a card which describes a male person.

Let each member of the group describe the society in which they live from the perspective of the role they have been assigned.

Make a list of these ideas on a chalkboard or on overhead transparencies.

A Picture of the Past

It should be clear now that a good deal indeed can be discovered about a society from an examination, however simple, of its families.

We also can discover a good deal about societies past from a consideration of the families of the past and about societies future from a consideration of the families of the future.

With this in mind, let us see what we can assume about a past society from the data provided in the following pictures of family activities which begin on page 10.

Distribute the pictures so that each one is shared by a small group. Arrange groups so that they are of about equal size.

Let each group examine their picture carefully and prepare a list of assumptions that can be made about the family and the society of which it was a part.

As a further guide for the examination and discussion of these pictures, consider:

Do these pictures, depicting home life in

You are in the insurance business. You are married. You have two children at home. Your wife does not work outside the home. Your annual income is about $16,000.

You are a male college student studying English and journalism. You work part-time for the college food service. Your wife is a cocktail waitress. You have an 18-month-old son.

You are a 12 year old girl with two younger brothers and a younger sister. Your father works in a steel mill but no longer lives at home. Your mother works evenings from 3 to 11 in a shirt factory.

You are a single male living in a small apartment in Chicago. You have been working at the LaSalle Bank for two years since your college graduation. Your salary is $8,600 a year.

You are the wife of a successful business man. You are not employed yourself, but are involved in many community activities. Your husband is vice president of a major corporation and your father-in-law is board chairman of the same firm. Your annual family income from the corporate salary is in excess of $100,000. Extensive investments have been made from inherited wealth. Your only child is a daughter who is in her last year of college.

You are the mother of three children. You are 39 years old. You are a school teacher. Your oldest child is a high school senior. Your youngest son is in kindergarten. You are divorced.

Assume the role of your own mother.	You are an employee of the State Highway Patrol. You have two young children who do not yet go to school. Your wife has become critically ill and is hospitalized. Her chances of recovery are uncertain.
Assume the role of your own father.	You are a bartender at a Holiday Inn. Your husband sells work clothes and sporting goods for the J. C. Penney Co. You have two children in college and a son who is a junior in high school.
You are the wife of a Baptist minister. You have three children. The oldest is two years out of high school, a playboy-type who occasionally lives at home and has never been employed for more than three months at a time.	For ten years you have been a prominent physician in a small Michigan town. Your wife is a volunteer worker for a local mental health organization. You have no children. Last year you attempted to take your own life. Your hometown newspaper was rather indelicate in its description of your personal problems.

this country from 1885-1920, suggest ways in which the education that children receive at home has changed?

For example:
What would a child in the family have to learn to live in a home such as one of these?

How would one learn such things?

How would a child learn to survive in the larger society that is implied by these pictures?

How would these things have likely been learned?

After the small groups have had sufficient opportunity to explore the ideas suggested above, compile the results on a chalkboard.

Arrange the data on the board so that the conclusions about society past are to the left of the conclusions about society present. In this way a time line will begin to emerge.

Roles, Norms, and Role Clusters

One fruitful way of looking at persons in a family or in a larger society is to think of the person as a set of intersecting roles.

In order to do this with families and societies of the past, present and future, we will need a small bit of conceptual machinery. For our purposes, the key concepts will be ROLE, NORM and ROLE CLUSTER. We will use these terms in the following way:

Role	is a specific set of activities which individuals are expected to perform.
Norm	is a rule which defines the way individuals should behave in a given situation.
Role Cluster	is the set of various roles assumed by one individual during one period of life.

What is a Role?

To get clear exactly what is meant by a *role*, consider the experience of the Blocker family.

Five persons live in the Blocker family: Mark Blocker, Jane Blocker, Josh Blocker, Joe Blocker and Mary Blocker. Mr. and Mrs. Blocker are both in their late forties. Josh and Joe are twins, age 16 and Mary is 14.

The Blocker family has just returned from a summer vacation in Maine. They have been gone for a month and their house has become quite dirty and dusty. Therefore, on the Saturday morning when they return, Mr. and Mrs. Blocker ask that Joe, Josh and Mary stay home for the day so that the entire family can work together to clean up the house. They have a lot to do such as wash the family car, cut the lawn and trim the bushes, prune the dead branches from the trees, pay all of the bills which have piled up while they have been gone for a month, dust everything in the house, wet mop and wax all the floors and clean underneath the furniture. In addition, there is the laundry to be done, the kitchen to be cleaned and the bathrooms to be scrubbed.

If the entire family works all day Saturday, Mr. and Mrs. Blocker feel that all the chores can be completed. Before they start, Mr. Blocker calls the family together in the kitchen. It is there that they will determine who does what job.

Each one of you may have had a similar experience in your own family. Take a few moments and see if you can predict who will do which jobs in the Blocker family.

A role describes a specific set of activities which an individual is expected to perform. For example, the role of judge is associated with specific activities. A person who assumes the role of legal judge probably spends most of his time in court and hears many legal arguments. Another type of judge determines winners of horse races or baking contests or beauty pageants. Librarian represents another role. A person assuming this role keeps records of books,

shelves books and also checks out books. What additional activities do you associate with the role of librarian? Dozens of roles exist in our society. Teacher, doctor, child, truck driver, lawyer, husband, salesman, mother, football player and policeman all represent roles. Certain activities are expected of a person who assumes any of these roles. Jane Blocker assumed the role of mother. What jobs did you expect Mrs. Blocker to do?

How a person chooses a role reveals a great deal about that person. Individuals often try to assume roles such as life insurance salesman and engineer. Other roles, such as prisoner, are imposed upon individuals by society.

Stating how a person prepares for a specific role also helps you gain information about a person assuming that role. For example, the role of teacher requires specific preparation. To assume this role, a person must go to college, take education courses, practice teaching and obtain a teaching certificate from the educational agency of the state government.

Since roles describe an aspect of a person's life, the ability to define a role enables you to learn about people who assume certain roles. In order to identify a person's role and define it you should ask the following questions:

> What activities are associated with this role?
>
> What preparation is needed for this role?

A Role Identification Project

Look again at the pictures of the past on pages 10-17. Pick one person from one of the pictures and give a name to the role of that person as suggested by the picture.

> State some of the activities that are associated with this role.
>
> How do you suppose the person you picked learned to do the things required by this role?

What are Norms?

Each of the characteristics of the role you described above represent a rule of behavior for that role. These characteristics describe the *normal* ways to prepare for the role and the *normal* ways to act in the role. Anyone who wants to act in this role conforms to these rules. Every role is made up of many rules of behavior. These rules are called norms.

> Make a list of the norms which describe the behavior of the role of *mother.*

In addition to helping you know about a specific role such as the role of mother, some norms help you know about many roles. Many of these norms are laws. "Do not kill another person," "Remain fully dressed in public," and "Drive on the right hand side of the street" all represent norms which have become laws. Norms which have become laws define a person's behavior in all roles.

Other norms, called customs, also define the behavior of persons in many roles. However, customs are not laws. For example, norms such as "Eat soup with a soup spoon" or "Eat three meals a day" are customs. One way to distinguish between laws and customs is to ask how a particular norm is enforced. If a norm is enforced by the police, then the norm is a law. However, if the norm is enforced by social pressure, then the norm is a custom.

> Now go back once again to the pictures of the past. For each picture, jot down three norms which define the behavior of one of the persons in the photograph. In order to define these norms, you should ask the following questions:
>
> How is this norm enforced?
>
> To whom does this norm apply?
>
> In what situations does this norm apply?

What is a Role Cluster?

Clearly, a specific role describes only a part of a given person's behavior. For example,

the role of a factory worker describes only that part of a person's behavior associated with working at a factory. If an individual works eight hours a day at a factory, then he or she spends the remainder of the day doing something else. In this section we will consider the fact that an individual in a social system assumes several roles, even in a single day. The term *role cluster* refers to the fact that one individual fills several roles.

Like the role of a factory worker, the role of a student describes only a portion of a person's life. The role of a student refers to the way an individual acts in the classroom. The role of student includes the following characteristics: does homework, listens attentively, responds to questions from teachers and other students and raises a hand before speaking. People do these things only when they assume the role of a student.

A person who assumes the role of a student might also assume the role of a baby sitter. In this role the characteristics of a student are not very useful. The role of a baby sitter does not require an individual to take notes, or to do homework or to raise a hand. The role of a baby sitter has characteristics of its own.

What other roles could be assumed by a student-baby sitter?

A Day from the Past

From the data we have gathered, it is possible for us to begin constructing a typical day in the life of a family several generations ago.

To continue this task more data obviously would be useful. One way to gather data about the relatively recent past is by interviewing persons who can supply such data from the memory of their own experiences. Recently, a sixth grade class from Battleground, IN., spent a thoroughly delightful afternoon conducting such interviews at the Indiana State Soldiers Home — some with persons more than 90 years old. Here is a data gathering project that can easily be simulated or carried out in reality.

Try to discover by talking to older persons (perhaps a teacher, parent, grandparent, or great-grandparent) how their home life differed from your own. For example, see if you can learn:

What household chores they were responsible for doing?

Whether more or fewer parts of their total education was received at home than is now the case?

What sorts of things, learned at home, do they consider an important part of their education?

What are the feelings of these people about the changes in education — particularly the role of the family in education — from the days of their own education until now?

Make a list of other ways we can collect information about families of the past.

Has anyone considered the data contained in a cemetery?

On the pages which follow are some reminiscences of homelife in Indiana from articles written by William Vogel for the Indiana Magazine of History in June and September of 1914. Use these selections to compile a list of activities which probably occurred in a typical household of that time. Do this in five small groups, each considering one topic: work, food preparation, education, health care and entertainment. (Prepare copies of each selection for every group member.)

Homelife in the Old Northwest

I. Work

The pioneers who first came to Indiana could not have subsisted except for the abundance of wild game. Many came almost empty-handed and others had food and supply only for a limited period; not enough to last until the maturing of the first crop. For weeks at a time they had no other food than bear, deer, or wild turkey meat, on which they lived until they could raise a patch of corn.

So the pioneers went a-hunting. The woods and prairies were full of bear, deer, buffaloes, pheasants and wild turkeys, and the streams and watercourses abounded with wild ducks and geese. Wild pigeons were so numerous that often the sky was darkened by their passage. A man could stand on his door step and shoot deer without difficulty. They resorted to the "licks" in great numbers all through the warm seasons of the year and the veriest tenderfoot could not fail to bring home a supply of venison. At Collier's Lick in Brown County a man shot 13 in one morning. Another knocked one in the head with an axe as it attempted to run past him while he was splitting rails.

An idea of the abundance of game in the early days may be gained from a list of the fur bearing animals that were hunted for their pelts. Bears, wolves, deer, buffaloes, lynxes, wildcats, opposums, beavers, otters, martens, minks, raccoons and muskrats abounded. Wolves were so numerous that the state encouraged their extermination by offering a bounty for their scalps. In places they had to be exterminated before sheep and pigs could be raised. They often attacked larger animals and even man. A Warrick County farmer who turned his horse out to graze one night found only the bones the next morning.

The new settler found a primeval wilderness. In every direction a great forest of oak, poplar, walnut, beech, gum, ash and a hundred other varieties of trees stretched over the hills and valleys, and in its shade in most places grew a thicket of spicewood, hazel, greenbriars, young saplings and other underbrush. In these thick woods the pioneer had to chop and grub a little field where he might locate a home and raise a little crop. In some sections all trees up to 18 inches in diameter were felled; all over that size were deadened, either by girdling with the axe or burning them about the roots.

The pioneer farm was a very independent institution, a little world of its own. Everything of daily use was made or substituted from its products, except salt. Food, clothing, agricultural implements, almost everything that came into daily life were the products of the community.

All the modern domestic animals, horses, cattle, sheep, hogs and domesticated fowls were raised. The cows and horses, however, were of very inferior size because of improper care in winter. Cattle were not housed in cold weather and as hay was very scarce, corn fodder was used as a substitute. In summer they were belled and turned out to range in the woods. Horses were belled and hobbled. Each farmer could identify the tinkle of his bells among twenty others. Hogs roamed freely in the forests, where they fattened in the fall on the mast. By winter time they were in fine condition for killing. Some pioneers paid for their lands by raising hogs in the woods.

There were no factory-made implements. There were, in the early period, no wagon or blacksmith shops. The pioneers had to depend upon their own resources for such tools and implements as they needed. They made a very good plow with a wooden moldboard. When iron was used, the plowshare, point and bar were all of one piece.

II. Food Preparation

Cooking stoves did not come into use until 1820 and even as late as 1835 a large majority of the families prepared their foods in the old fashioned way. In the early days cooking utensils were not plentiful. The settlers came a long way over mountains from the seaboard states, in rough wagons and carts, on horseback, and even on foot. Consequently it was difficult

to bring many dishes or utensils. Many of the poorer immigrants had but a single skillet in their cabins. An old lady relates that when she was a grown woman there was not more than one vessel for cooking in any home in the neighborhood and that one was nearly always a skillet with a lid. Some made with their own hands rough pots of clay, which served until they could get iron ones. These crude pots were not glazed so that when meat was cooked the grease came through the pores and the outside of the pot was continually afire. In the more comfortable homes the cooking was done in large kettles hung with pot hooks from an iron crane over the great fire in the fireplace. Meat was cooked in a long handled frying plan which was held over the blaze by hand or set down upon coals drawn out upon the hearth.

This pan also was used for baking pancakes, sometimes called "flapjacks," and bread, too, was frequently made on it. Johnny cake was baked on a board made for this purpose, about 10 inches wide and 15 inches long and rounding at the top. The thick corn dough was placed on the board which was set against a chunk of wood near the fire. After one side had been baked to a nice brown, the other side was treated in the same way. The resulting cake was often delicious. If a johnny-cake board was not at hand, a hoe with a handle was cleaned and greased with bear's oil. The dough was baked on this metal surface and was called a hoe-cake. If neither a johnny-cake board nor a hoe was to be had, the dough was wrapped in cabbage leaves or fresh cornshucks, laid in a clean place on the hearth and covered with live embers, which thoroughly baked it. This was called an ash cake. A better article for baking was a covered skillet called a "spider." This utensil stood upon feet and was heated over the hearth with hickory coals piled over and under it; no flame was suffered to blaze around the skillet. The more prosperous families used the Dutch oven for baking, especially in the summer time. This was made of bricks and mortar, or small boulders, or even tough clay, wrought and beaten into shape and burned by slow fires built inside. It was usually set upon a wooden platform away from the house because of the danger of fires, and was protected by a shed. In shape it appeared much like a round dome, resembling considerably the old-time bee hive. After the oven was thoroughly heated the fire was raked out and the bread and pies set in upon the floor, the body of the oven retaining enough heat to do the cooking.

III. Education

The early French settlers cared little for education. The only instruction they received was given by the missionary priests who labored diligently to prevent the happy-go-lucky soldiers, traders and trappers, who were naturally indolent and careless, from forgetting the principles of their religion. In later years, resident priests attempted to teach the children to read and write, but the frontier Frenchman was as much averse to mental effort as to physical toil. They had no education as we understand the term. All that they knew was handed down from father to son. What was perhaps the first regular school in Indiana was established at Vincennes in 1793 by a priest named Bivet. So there was no school in the territory until it came into American possession.

Americans have always believed in education. The Ordinance of 1787 made provision for the training of future citizens in the Northwest, and from the very first organization of Indiana, the people have had a deep interest in the education of the coming generations. In one form or another the education question has been before every General Assembly from territorial days to the present time. Succeeding assemblies have been asked to aid in the establishment of schools, or to grant special privileges for the building of academies and seminaries in the various parts of the state. The General Assembly of 1821 appointed a committee for the purpose of drafting a bill providing for a general system of education. The conception of education as a public duty is evidenced by the fact that the committee was instructed to guard well against any distinction between rich and poor. The report of the committee was incorporated in the first

general school law of Indiana.

Schools between 1805 and 1815 were very primitive. The country was sparsely settled; in fact half a dozen pioneers located two or three miles apart, at that time, formed a large settlement. Consequently the children were taught the rudiments of learning at home. There was usually someone in the family capable of teaching the children reading, writing and the simple elements of arithmetic. Even in later times, on account of the great distance from the schoolhouse and danger from wild animals, children were frequently taught at home. This home instruction was not altogether inefficient. Twice a week in the afternoon the mother, usually, gathered the children around her and taught them to read, write and cipher as far as division. They worked with goosequill pens and ink made from walnut hulls. Those who were old enough read in turn from some book taken from the family collection. On Sunday they read in the same manner from the Bible, the stories of which were simply explained by the mother. Sometimes children from a neighbor's home would join the family Bible class.

In these times of danger it was also the custom to employ an instructor to go from house to house in the settlement. This circulating teacher spent one-third of a day with each family giving instructions in the rudiments of education; in this way with six families he could give three lessons a week to all the children. When it became less dangerous for the children to pass through the forest, they assembled at the home of the family most centrally located, where they were taught in a lean-to built at the side or end of the cabin. A mother or elder sister gave a little simple training in reading, writing and ciphering.

After all, the pioneer children received their real education in the great out-of-doors, in the forests and by the streams. There was plenty of arithmetic, manual training and physical culture for the boys, in the work they did with their father, building and plastering cabins, clearing and fencing the farms and in doing hundreds of other things which had to be done on a pioneer farm. The girls learned through the assistance they rendered their mothers, in spinning and weaving, in making butter and cheese and in doing all the little things that a pioneer housewife found to do. And best of all the training the girls and boys received in those days fitted them for their life's work. . . .

IV. Health Care

The woods of Indiana were not settled without much sickness, many deaths and great suffering. The pioneers had to contend against invisible, as well as visible foes and of the two, the former were the most deadly. No part of America, outside of the tropics, was more subject to malarial visitation than the rich flat lands of Indiana.

Occasionally whole towns were depopulated. In the southern border counties during the years 1820-1822 sickness was especially prevalent. So alarming was the mortality that the General Assembly of the State set apart a day for public prayer and supplication to the Almighty God, that he might bless the country with fruitful seasons and bring health and peace to the unhappy citizens. In 1821 an epidemic of fevers broke out and continued from July to October during which time nearly every person was sick and about one-eighth of the population died. One-third of the people of Vincennes were confined to their beds with sickness. The whole Wabash county was especially afflicted and the southern counties were never free from fevers.

Medical aid was hard to secure. In the beginning there were few doctors and the settlers lived so far apart that it was almost impossible for a physician to get around in times of heavy sickness. More than one mother watched over her child through the night, hoping for a visit from the doctor who never came or if he did finally come, arrived too late to be of any use.

The story of suffering from ague forms a

pathetic part of the history of pioneer life. To newcomers it was a veritable terror and in the fall, everybody looked pale and sallow, the disease being no respecter of persons. From the first of August until the first of October of each year no serious labor was undertaken. Sickness reigned supreme. At any gathering half the members wore yellow faces and moved about with heavy lassitude. The sickness began with chill of indefinite duration, followed by a burning fever which lasted for hours. Sometimes the attack came every day, but generally on alternate days. Frequently the paroxysms of shaking were so violent that the bed upon which the sick person lay would creak and rattle.

With so much sickness the life of the old-time doctor was not an easy one. Poorly trained and poorly equipped, it is amazing that they accomplished anything. No course of preparation was necessary and no license was required before they began to practice. Some of them were men of little character and could be classified only as quacks. Most practitioners received a little training in the office of another physician; some relied on natural wit and experience alone and hung out a flaming clapboard sign at the first opportunity. Quinine, calomel, tarter emetic, castor oil, salts, and jalap were standard remedies and a large lancet for bleeding was found in every medical case. With his saddlebags full and a good hardy horse, the pioneer physician counted himself the equal of the mightiest disease. Whiskey was a universal remedy for malaria and did not need a doctor's prescription. It was considered the best possible remedy for the bite of a poisonous snake. A person, when bitten, was made to drink as quickly as possible large amounts of the firey intoxicant. Our early grandmothers were experts at gathering herbs, from which teas and bitters were concocted.

It was a time of quackery and quack medicines. Often in the sickly season all the quinine in the shops was consumed. Then the settlers had no remedy except boneset and gentian. The sick were ready to try anything that promised relief and pills with formidable names, guaranteed to cure a whole category of diseases, found a ready sale. Empty medicine bottles could be seen hanging from the walls of almost every cabin. There were quack doctors, too. A certain Dr. Burr came to Connersville from Ohio and advertised himself as a "Root Doctor." He nailed up to the weatherboard of his hotel an enormous swamp lily root, almost as large as a man, with head, eyes, ears and nose nicely carved. Arms and legs were attached and above it appeared the glaring sign, "Joseph S. Burr, Root Doctor: No Calomel." People came from all parts of the country to see the doctor and the big root and he quickly established a lucrative practice. He granted diplomas to students upon the completion of a three-week course of study. As a result the county was soon filled with root doctors.

V. Entertainment

The life of the pioneers was not all hardship and deprivation. They had many pleasures and amusements to relieve their hard toil. There was no lack of wholesome fun and frolic. Our fathers lived an isolated life in sparsely settled communities; so, any neighborhood social event was anticipated with delight and glee that was almost childish in its nature. Social pleasures, too, were largely connected with the neighborhood tasks of the settlers. If logs were to be rolled, the neighbors assembled to roll them; if a cabin was to be built, the pioneers came for miles around to assist. There were cornhuskings, sheepshearings, apple-parings, sugar-boilings, quilting bees and hog-killings.

The pioneer himself could fell the trees of his farm, cut them into proper lengths, clear away the brush and limbs, but in order to roll the logs into a heap for burning he was compelled to call in his neighbors. On the appointed day, they all came with their wives and children; the men to pile the logs and the women to cook for the feast that always followed the work. Logrollings, at first sight, do not suggest fun and pleasure, yet they were eagerly looked forward to, especially by the young people. Such undertakings meant much hard work, nevertheless the toil itself was turned into sport and play. When the last log was in position feasting and enjoyment began.

Usually the men were separated into two

divisions, and the clearing was apportioned so as to give each division relatively the same amount of work. Each chose an experienced man as leader and when begun, the contest never flagged. The section which first disposed of the last log was declared the winner. This was no little honor, for the victory would be discussed in other settlements and praises of the heroes sung far and wide. As great individual rivalry occurred among the younger men, some amazing feats of strength were performed. A favorite test was to determine which of two men could outlift the other, each lifting at one end of a log with a handspike. After the work was done the log heaps were fired and a hundred bonfires reddened the sky. A more beautiful sight can scarcely be imagined.

Logrollings were especially frequented by candidates and politicians. Here they had an opportunity to present their claims and defend themselves against trivial or unfounded charges. But such seekers were required to show their mettle. Sometimes rival candidates were assigned as leaders of opposing sections of workers. Then work proceeded under the highest stress. In fact some enterprising farmers, it is said, made a practice of deferring their logrollings until campaign time (some kind of an election was held every year), about a month preceding the election, in order to reap the benefit of the labor and enthusiasm of the various candidates.

The husking of corn was an important work and was a neighborhood affair. Both sexes participated. They usually assembled in a large barn which was arranged for the occasion, where they sat in a circle and played "brogue it about" while they worked. Each gentleman selected a lady partner when the husking began and under the zest of the frolic, the work progressed with surprising rapidity. When a lady found a red ear she was entitled to a kiss from every gentleman present; when a gentleman found one he was entitled to kiss every lady present. Then, after the old folks had left, the remainder of the evening was spent in dancing and games.

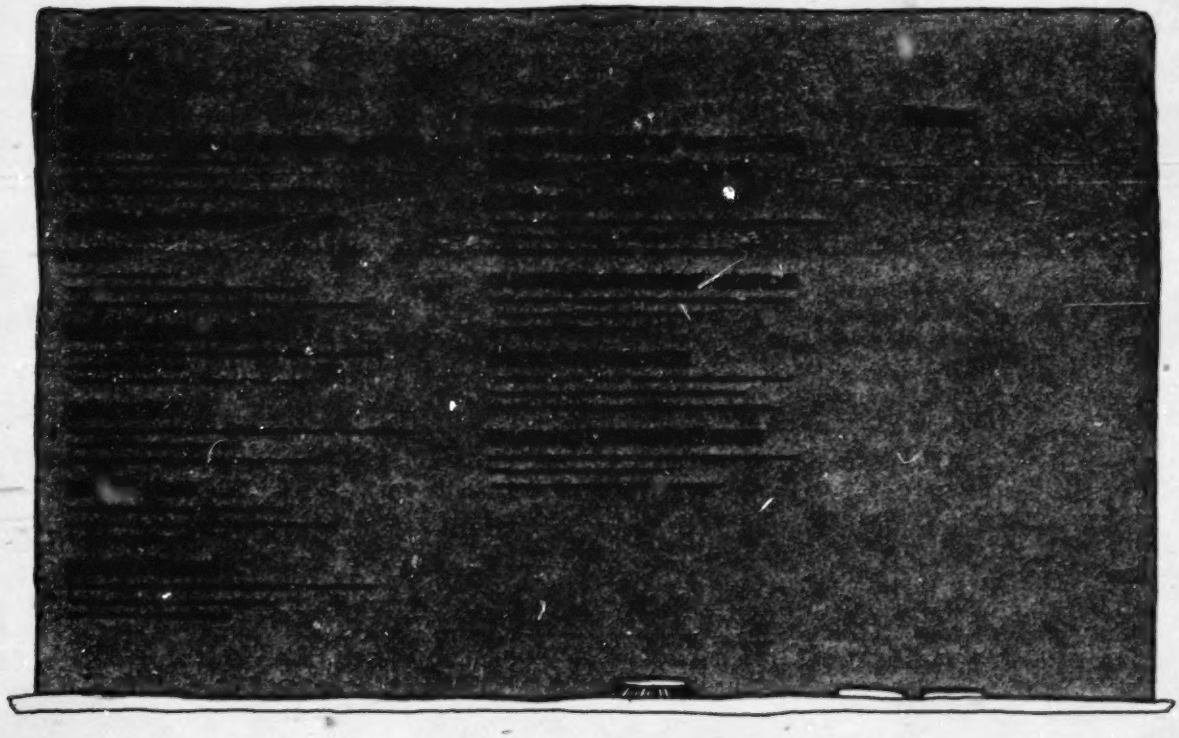
One of the chief public entertainments of the early settlers was the spelling school. It was looked forward to with much anticipation and anxiety. When the time came the whole neighborhood or even several neighborhoods, came together for an intellectual contest. Two young people chose sides and the teacher who was master of ceremonies pronounced the words. They spelled in various ways, each section having its favorite method. Sometimes they spelled across, sometimes "word-catchers" were employed, again the "spelldown" process was the means of determining the contest. After the match the country swains took the girls home, often by very roundabout ways.

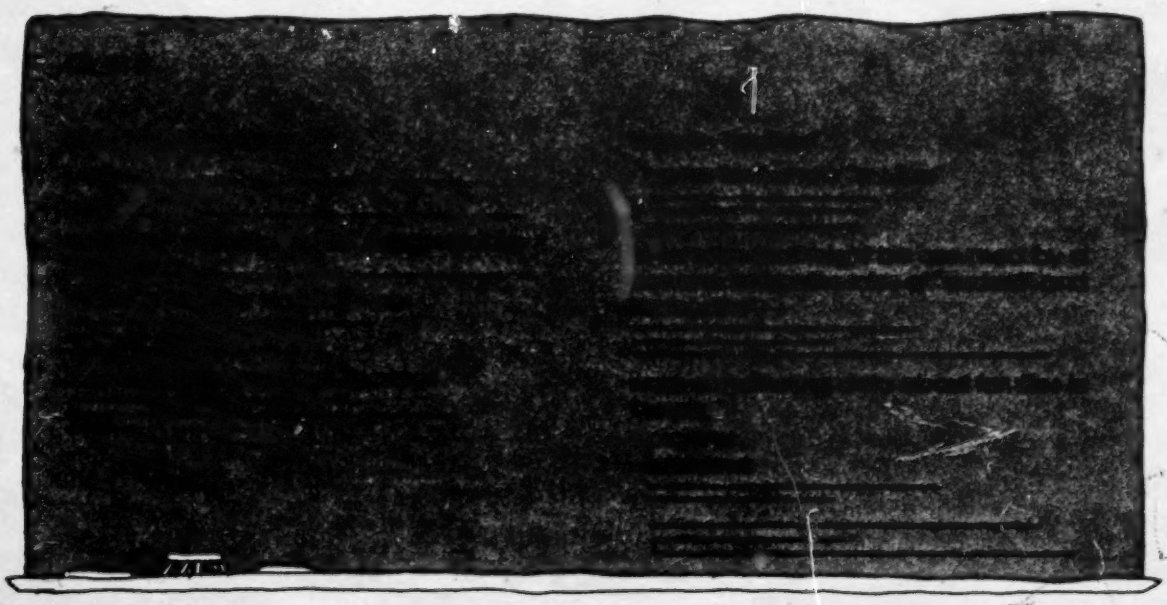
Families Past and Families Present

At this point in our consideration of the family we have talked about some of the features of families present and some of the features of families past which reveal interesting data about their respective societies.

If this data had been collected on a chalkboard, the board now would look something like this: See chart 1.

There should also be, other places on the board, the following summaries of discussions and group interactions: See chart 2.

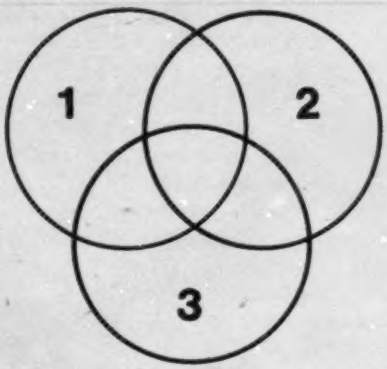




More About Role Clusters

In our consideration of family life at a certain point in the American past, we looked at a variety of different *kinds* of things that families did. This strengthens our notion that throughout a given day one person assumes a variety of different roles — depending upon the situation at a particular time and place.

The concept of a person as a cluster of overlapping social roles can be represented by a series of intersecting circles like this:

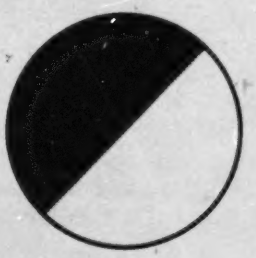


Let circles 1, 2, and 3 represent three roles assumed by the same person, P. Suppose the roles were:

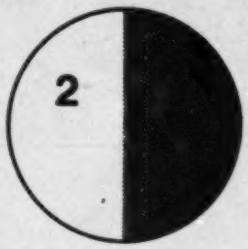
1. Husband
2. Father
3. Farmer

For any one person to assume the role "father," is to engage in some but usually not all of the behavior associated with that role.

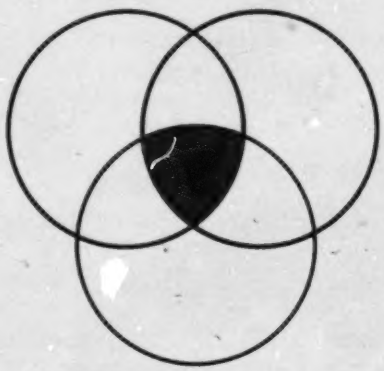
Let's say that the husbandly behavior of person P is represented by the clear portion of circle one:



Similarly, the fatherly behavior of P is indicated by the clear portion of circle two:



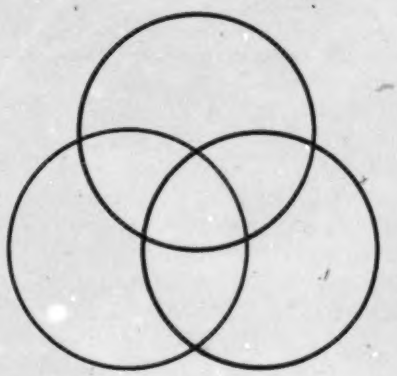
Thus, individual P is defined in his roles as father, husband and farmer by the intersection of circles 1, 2, and 3.



A Role-Cluster Exercise

Part I

Choose a person from the exercise, "A Day From the Past" with whom you can easily identify. List three roles assumed by this person and arrange them on a diagram like the one below:



Part II

Make a similar diagram of your own role cluster. Use the three roles which seem to occupy the most time in your own experience.

But What, After All, is a "Family?"

Throughout this unit we have been using the term "family" as though everyone understands and agrees on the meaning of the term.

Let's test this assumption.

A useful definition enables us to include certain things in a given category and exclude everything else. For example, if I have a clear understanding of the term "horse," I can observe anything in the entire universe and say of it, either,

a. it is a horse or
b. it is not a horse

Can we do this with "family?"

Let each of several small groups take one or more of the illustrations which follow.

1. To say whether or not the individual or group in the illustration constitutes a family. (Note: Consider only the person or persons actually appearing in the illustration. Do not consider any other persons whose existence may be implied by the picture.)

2. How did you decide whether or not the illustration constituted a family?

When the small groups have finished, compare results.

Is it possible to obtain a composite definition of "family" from the efforts of these small groups? Let the whole group construct such a definition.

How does this definition enable us to respond to the following questions?

1. What constitutes a family?
   a. How few and how many members can be called a family?
   b. What is meant by "the family of mankind?"
   c. How do families begin and end — or do they?
   d. Why do so many families seem to begin with a religious ritual (the marriage ceremony)?

2. Who are the members of my family?
   a. Are persons no longer living at the same place part of the same family?
   b. Are grandparents and other relatives part of the same family?
   c. Are children and grandchildren *not yet born* in any sense part of a family? Do family responsibilities extend to such future members?

3. What are some of the functions of a family?

Families Literal and Families Metaphorical

Sometimes we change the meaning of a term slightly on different occasions when we use it. If this does not happen too abruptly and other people understand what we are doing, no harm is done. However, if we change the meaning of a word too sharply and too suddenly, other people become confused or simply do not understand our meaning.

Sometimes, a word is not intended to be taken with its ordinary meaning but is used as a figure of speech.

Look at each of the following phrases which contain the word "family."

For each one say whether the word "family" should be understood in an ordinary sense or whether it is used figuratively.

If it seems to be used in a normal way, what exactly is its meaning in this phrase?

If it seems to be used in a figuratively way, what is meant?

Education and the Family

Some people have suggested that a family is a place where things are *learned*. For example, the family is where one learns acceptable social behavior. The family is where one learns how to rear a child.

In order to focus more clearly on the specific educational contribution of the family —

Make a list of some activities that 12-year-olds normally engage in at home.

How are these things learned?

How do you yourself contribute to the education that goes on in your home?

In order to see family-based education in a broader perspective, prepare a short list of things that are learned in our society in each of the following contexts:

some things learned at home	some things learned in school
some things learned through mass communications media	some things learned only by private experience
some things learned from another person as an instructor or model	some things learned from a religious community

Families, Education, and the Future

So far our consideration of families and education has been concerned with the present and the past. But what of the future? Can this discussion be translated into the future tense?

Two fruitful devices, used by futurists to help think constructively of alternative futures are the "futures wheel" and "what if" questions. Here is an exercise which combines the two techniques in an attempt to think about families and education in the future.

A "What If" Exercise

In societies that are less bureaucratized, less industrialized and less technology-oriented than our own, a good deal more of the total equipping of the young for participation in the adult society is handled in the home. Some people believe that in our contemporary society we have asked the schools and other formal social institutions to do more along this line than they can or should handle.

1. WHAT IF 50 per cent of the families of school-aged children in America came to the conclusion that the public schools were not doing the job that needs to be done and decided to care for the education of their children themselves (in the home, in private schools which they control, or in some other way):

   Working in small groups:

   a. Make a list of five things that would result from this "ify" situation.

   b. Now make lists below each of those five results of several additional things that would result from each of the first five.

   c. Do the same thing again with these last results.

   Now compare the work of the entire group and make a composite list, eliminating duplications.

2. WHAT IF runaway inflation, resulting in the inability of the govern-

ment to collect more taxes and an increase in the costs of goods and services, make it necessary for your school corporation to cut its services exactly in half for the coming school year:

What would go and what would stay? (Programs.)

Who will go and who will stay? (Personnel)

Whom will we educate?

Which things that go can be successfully handled at home?

What are some results of the results listed to the above questions?

3. WHAT IF public education expands in the next two decades so that by the mid-1990's children enter school at six months of age and the schools are for the most part boarding schools — children return home only for holidays and vacations:

Which of the following basic human needs do you suppose would be cared for more adequately in such a situation and which would be cared for less adequately?

Physiological needs (for example, the need for food and water)

Safety needs (the need for security; freedom from fear; the need for structure, law, and limits)

Belongingness and love needs (the need to be free of lonliness, ostracism, rejection, friendlessness, and rootlessness)

Esteem needs (the need for a high evaluation of oneself, and the need for the respect of others)

The need for self-actualization (the need to be everything that one is capable of becoming)

4. WHAT IF the present trend for children to spend more and more of their early childhood outside of the home (in nursery schools, day-care centers, pre-kindergartens, and such) continues and reaches the point where children are, in effect, reared by professional parents and in the supposition of Alvin Toffler, the "biological parents would not only gladly surrender their children to [the professional parents] but would look upon it as an act of love, rather than rejection."

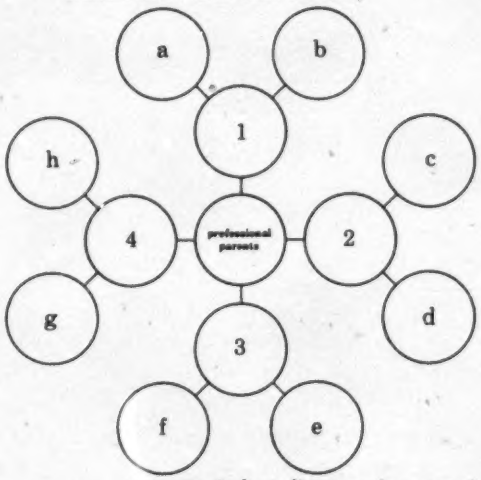
Do you think such a state of affairs might actually come to pass?

If it does, would you approve or disapprove of such an arrangement?

What are some of the results that would follow from such an arrangement?

What are some of the results of those results?

(Try arranging your results and sub-results to this exercise on a wheel like the one below)



1, 2, 3 & 4 first order results
a, b, c . . . second order results

5. WHAT IF your class wrote some "what if" questions like the ones above?

A Concluding Exercise

To summarize some of the results of this unit, consider your own family situation 10 years hence.

Instructions:

Imagine the date to be exactly 10 years in the future of today's date.

Working with one other person of the opposite sex and about your same age, sketch in the following parts of a family agreement. Try to be realistic in your anticipation of the future, but since this is strictly an imaginary situation, you can be as utopian as you wish.

I. The purpose of the _____ family is to

II. The members of this family will include

III. The rights of the individual members of this family will include

IV. The responsibilities of each member to other members will include

V. Major decisions will be made by

VI. The division of labor to keep the home functioning will be

VII. Money Management

A. The source of family income will be

B. Decisions about money will be made

VIII. This family's relationship to society will be understood in the following ways:

A. Religion

B. Service clubs and organizations

C. Education

"The Individual in the Emerging Present"

The danger of the past was that men became slaves. The danger of the future is that men may become robots.

Erich Fromm
The Sane Society

The purpose of this unit is to introduce some simple techniques for thinking about the future to those for whom "futures thinking" is a new idea.

One of the most immediate and personal decisions we make concerns a career. Later in this chapter we will focus on the choices we all make about our own futures in the career decision process. First, we will attempt to enhance our creative aproach to the future in general. Then we will limit our thinking to the future of our own career.

Our interest is not in a nebulous "future" — far away, generally unknown and in fact unknowable. Our concern rather is with what Robert Hanvey prefers to call the "emergent present". This is the nearer future which touches our own lives immediately.

> *If the testimony of numerous observers corresponds even slightly to reality, there are difficult times very close at hand, within the boundaries of what we might call the* emergent present. *Those matters that engage our attention, that shape our thinking and activities now — those are part of our present. For the present, after all, includes not only the immediate instant but the recent and the soon.*

One distinctive characteristic of being human is the capacity to understand the past and plan the future. Thus, a critical alternative in the process of becoming fully functioning persons is whether our future is something that *happens to* us or something we *do* as a result of our own intelligent decision.

The goal of this unit is to acquire skills for *doing something* about the future.

Why Worry About Tomorrow?

Education has traditionally looked to the past. Its function has been to reproduce a cultural heritage. Gradually, the educational systems of industrial cultures have shifted their focus to issues of the present.

Now we are urged simultaneously: 1. By the traditionalists that it is essential to revive our commitment to basic education — that is, to the assured values of the past and 2. By the futurists, that the industrial era is past and that the increased tempo of the electronic age calls for education that is geared to the future.

The question is: Why worry about tomorrow? Is our relation to our potential futures really any different from that of any past generation?

One way to begin to grasp something of the predicament of the human species is to chart a few bits of established data. Here is a brief data base from which we can construct a dramatic chart.

> *In 8000 B.C. the population was estimated at about five million. It had taken about 2½ million years for it to double. It took another 10,000 years for the populace to reach 500 million about 1650 A.D. It reached a billion people in 1850, doubling in only two hundred years. It took only 80 years for the next doubling as the population reached two billion about 1930. Now our population is 4 billion having doubled in 35 years.*

Instructions:
Duplicate the chart (figure 1) so that each person has a copy.

Chart a world population of 4,000 million (4 billion) for 1975.

Mark the following data and population points on the chart:

A.D. 1650 — 500 million
1850 — 1,000 million (1 billion)
1930 — 2,000 million (2 billion)
1975 — 4,000 million (4 billion)

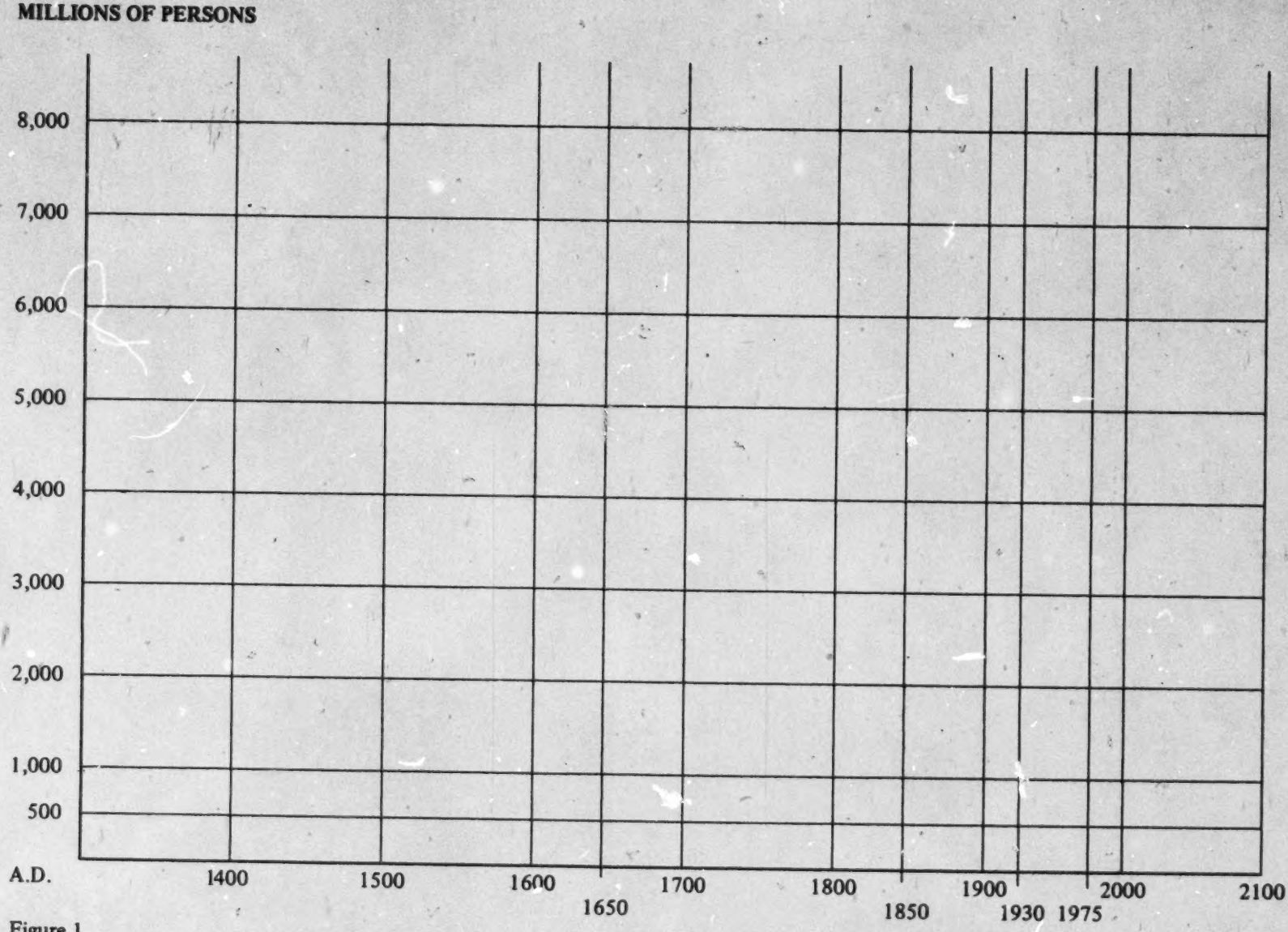

MILLIONS OF PERSONS
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
500
A.D.
1400
1500
1600
1650
1700
1800
1850
1900
1930
1975
2000
2100

Figure 1

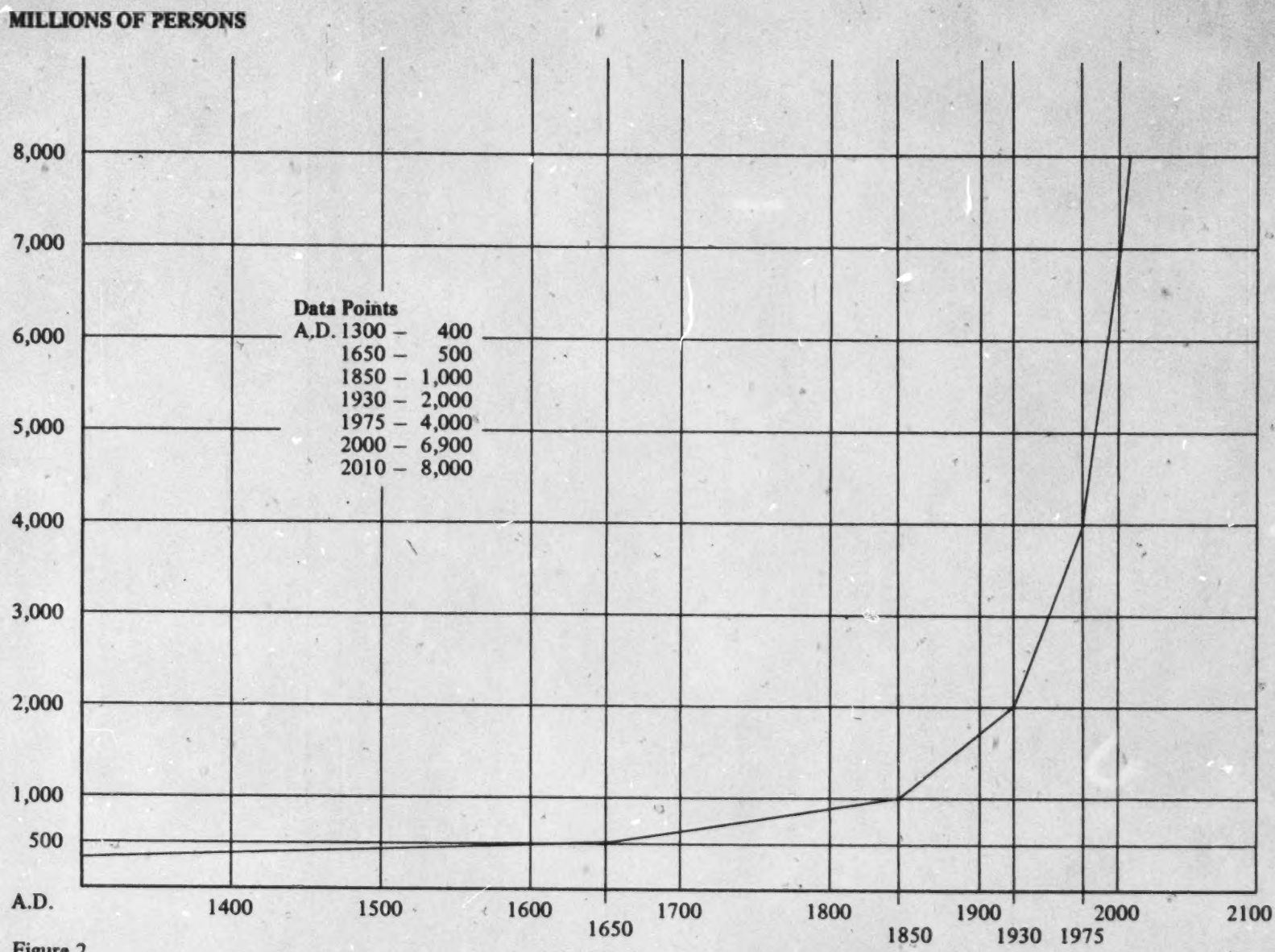

MILLIONS OF PERSONS
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
500
Data Points
A.D. 1300 – 400
1650 – 500
1850 – 1,000
1930 – 2,000
1975 – 4,000
2000 – 6,900
2010 – 8,000
A.D.
1400
1500
1600
1650
1700
1800
1850
1900
1930
1975
2000
2100

Figure 2

Estimate the population point at A.D. 1300 and mark this point on the chart.

Connect these points with a smoothly curving line.

Assume a continuing doubling time of 35 years and plot the approximate population point on the chart for the year 2000. Continue the population line through this additional point.

Figure 2 shows the chart as it might appear when completed.

Now use the population information from the chart you have just made, together with the following data, to construct an even more alarming chart. Use figure 3 in the same way figure 1 was used.

Additional data:
At present levels of agricultural productivity (on a world average) 0.4 hectares of cultivated land are required to feed one person at a world average level of consumption.

Note: One hectare is a little less than 2½ acres.

Note: To feed each person at present U.S. levels would require 0.9 hectares.

For every person, 0.08 hectares of arable land must be used for non-agricultural purposes such as housing, roads, waste disposal and such.

Recent studies indicate that there are, at most, about 3.2 billion hectares of land [7.86 billion acres] potentially suitable for agriculture on the earth. About half of that land, the richest, most accessible half, is under cultivation today. The remaining land will require immense capital imputs to reach, clear, irrigate or fertilize before it is ready to produce food. Recent costs of developing new land have ranged from $215 to $5,275 per hectare. Average cost for opening land in unsettled areas has been $1,150 per hectare.

Instructions:
Assume that, despite the cost, we decide to cultivate all possible arable land on earth.

Calculate the amount of agricultural land needed by the world population in A.D. 1650 (multiply the 1650 population by 0.4) and plot this point on the chart. Plot the need for agricultural land in 1850, 1930, 1975 and 2000.

Connect the land need points with a curved line.

Draw a line all the way across the chart at 3,200 million hectares to represent the fixed limit of arable land on earth.

Calculate the amount by which the land available for agriculture must be reduced in 1850 (multiply the 1850 population by 0.08) and plot this point on the chart.

Plot the reduced amount of arable land for 1930, 1975 and 2000. Connect these reduced land points with a curve that originates on the fixed amount of arable land line.

Questions:
At what point do the two lines cross?
What is the meaning of the crossing of these two lines?

Figure 4 illustrates a completed version of figure 3.

Feelings About the Future

One way to elicit personal ideas and feelings about what is conceptualized as "the future" is to ask persons to identify a future possibility with a definite date.

For example:
What year do you associate with the following events?

The future
A solution to the pollution crisis
Your own death
The end of the species Homo sapiens

List responses to these questions on a chalkboard. What reasons, if any, can be given for preferring one individual's response over the others?

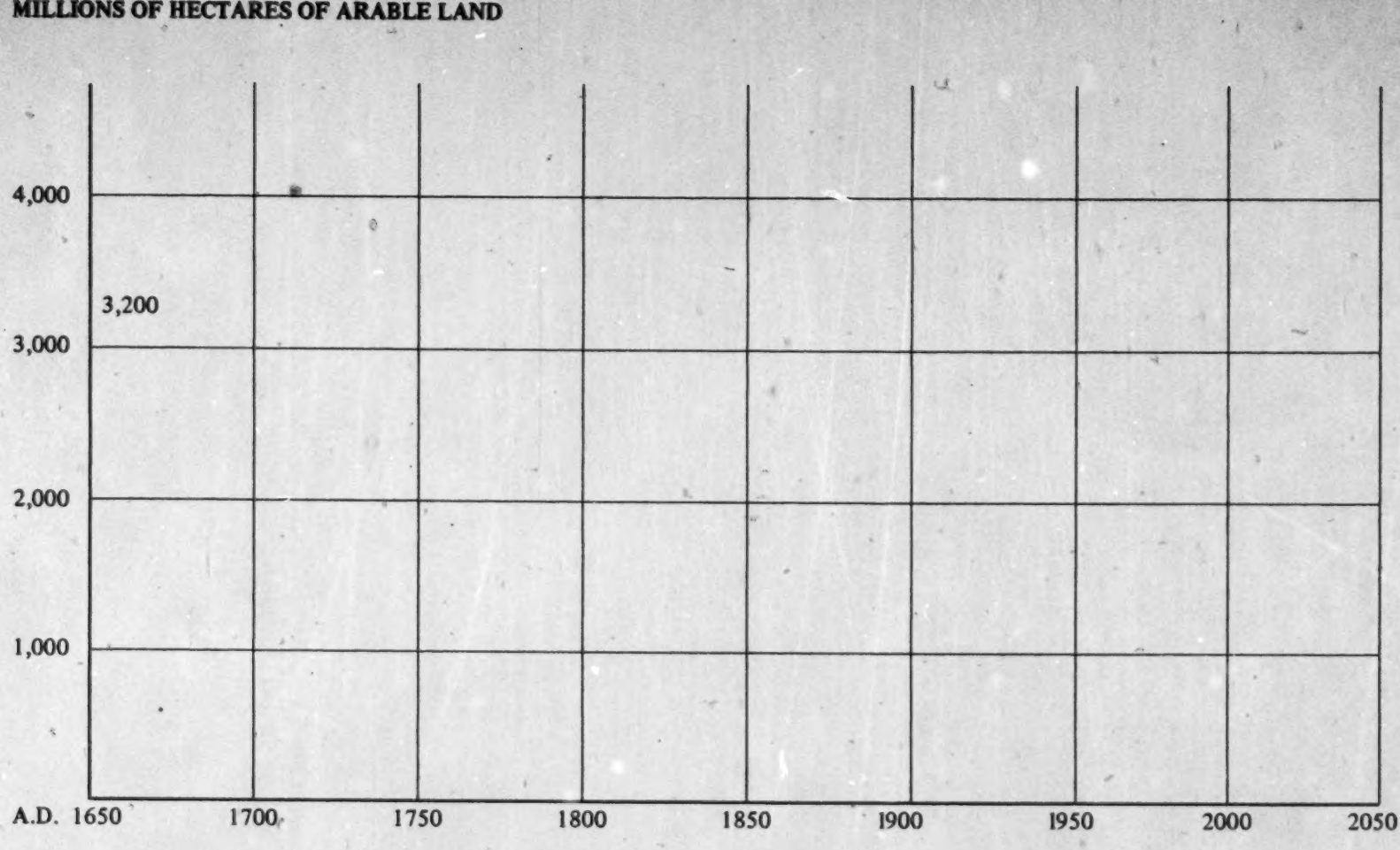

MILLIONS OF HECTARES OF ARABLE LAND
4,000
3,200
3,000
2,000
1,000
A.D. 1650
1700
1750
1800
1850
1900
1950
2000
2050

Figure 3

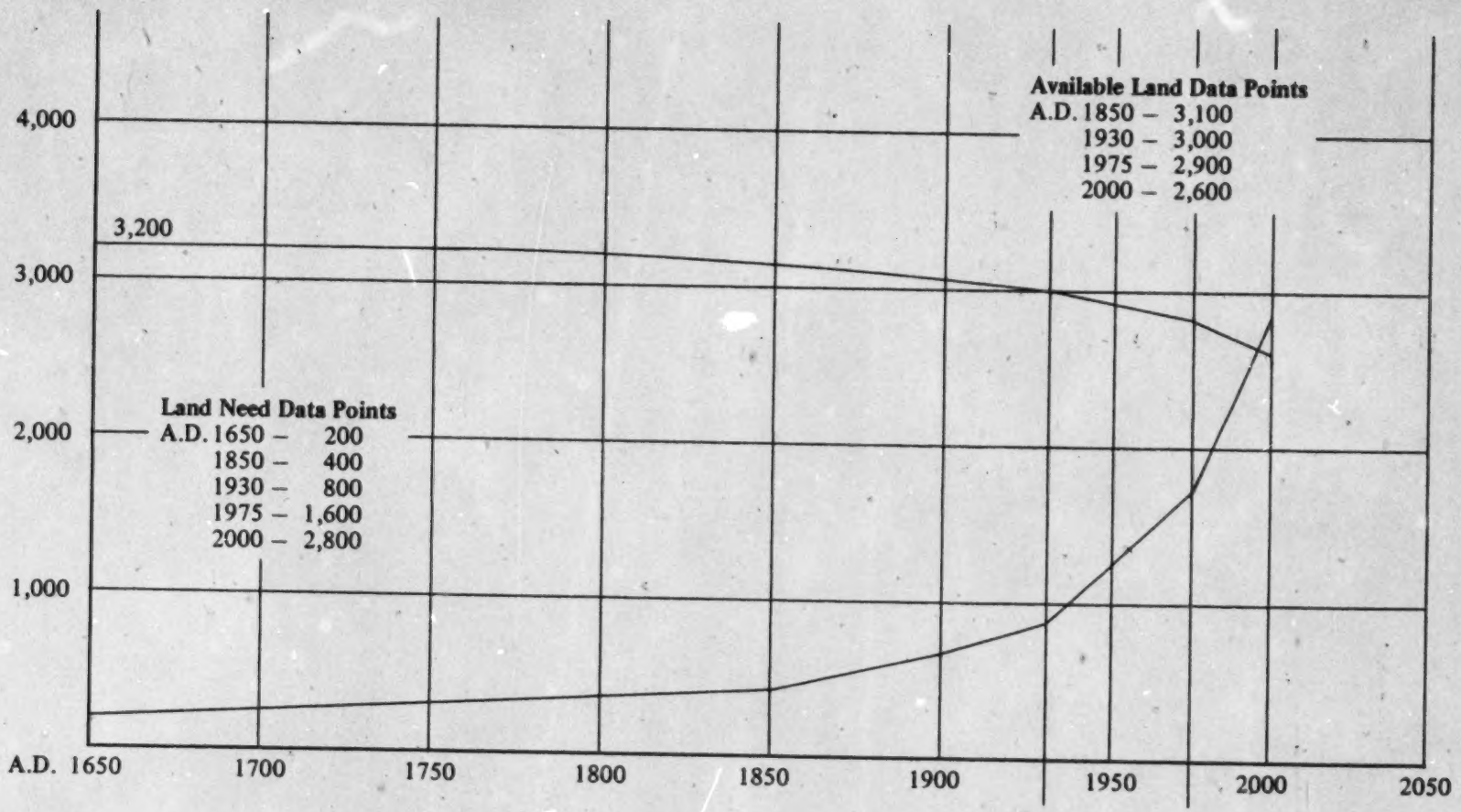

MILLIONS OF HECTARES OF ARABLE LAND
4,000
3,000
2,000
1,000
3,200
Available Land Data Points
A.D. 1850 – 3,100
1930 – 3,000
1975 – 2,900
2000 – 2,600
Land Need Data Points
A.D. 1650 – 200
1850 – 400
1930 – 800
1975 – 1,600
2000 – 2,800
A.D. 1650
1700
1750
1800
1850
1900
1930
1950
1975
2000
2050

Figure 4

Opinions About The Future
A Survey

Several futurists and futures curricula developers have discovered that an opinion survey is useful in stimulating futures study and thinking in a group.

Following is such a survey developed for the Anthropology Case Materials Project at the Social Studies Development Center, Indiana University.

Prepare a copy of the opinionaire for each person in your group.

This instrument can be used in many different ways. For example:

Responses can be given in small groups, after some discussion of each item or individually with discussion following.

Values can be explored by rank-ordering the items about which persons have the strongest positive and negative feelings and the items about which persons are most indifferent.

Results can be tallied and checked for proportions of the group who believe a given item will or will not occur and proportions who favor or do not favor the occurrence of an item.

The most interesting items for future discussion will be: 1. Those which the group believes *will happen* and yet they *do not approve* and 2. Those which the group believes will *not happen* and yet would approve of if they did occur. These are the sorts of conflict issues which prepare us to do something about the future since they challenge us with the discrepancy between what we anticipate and what we really desire.

INTRODUCTION: The following questions ask you for your opinions about the way Americans will live in the future. Please answer the questions carefully and completely — don't skip over items or leave blanks on the answer sheets. Even if you might have trouble understanding directions or words, please do your best to answer.

Remember that these questions ask you for your opinion — there are no right or wrong answers.

PREDICTIONS FOR 1985

Suppose that someone predicts that the following changes will occur by 1985 – or before.

For each item indicate in the left hand column, Column A, whether you think it will or will not happen by checking one space. If you are uncertain, guess. Then go to Column B, *assume that the change will take place*, and indicate whether or not you approve of the change, (even if you don't really believe it will happen.)

Column A			Column B	
I believe it:			If it did happen, I:	
will happen	won't happen	PREDICTION FOR 1985	approve	don't approve
☐	☐	1. People will not go out as much but will find their entertainment in front of the television set.	☐	☐
☐	☐	2. Church attendance will increase.	☐	☐
☐	☐	3. A larger proportion of the working population will be employed by government – local, state or federal.	☐	☐
☐	☐	4. All information about a person – where he lives, works, his purchases and savings, his taxes, insurance, marital status, traffic tickets, etc. – will be stored in a central government computer and available to government officials and to organizations who wish to check credit.	☐	☐
☐	☐	5. Proportionately less money will be spent by the federal government on defense and more on improving life in our cities.	☐	☐
☐	☐	6. Advances in technology – especially automation – will replace many of the monotonous, semi-skilled, low-responsibility jobs with jobs calling for increased skill and individual responsibility.	☐	☐
☐	☐	7. The United States will no longer be the world's greatest military power.	☐	☐
☐	☐	8. People will be admired for buying and consuming as little as possible rather than as much as possible.	☐	☐
☐	☐	9. All nuclear warheads will be dismantled	☐	☐
☐	☐	10. There will be a growth of day-care centers for young children.	☐	☐
☐	☐	11. Students will be able to take all necessary courses for high school as television courses received on home TV sets.	☐	☐
☐	☐	12. There will be as many female as male members of Congress.	☐	☐

Column A			Column B	
I believe it:			If it did happen, I:	
will happen	won't happen		approve	don't approve
☐	☐	13. The United States will no longer be the world's greatest economic power.	☐	☐
☐	☐	14. Women will no longer think that being a housewife or mother is the most important thing that a female can do with her life.	☐	☐
☐	☐	15. Jobs that require a high school diploma today will require at least two years of college.	☐	☐
☐	☐	16. Increasing numbers of people will reject what they view as the hurried, impersonal, competitive life of the cities and turn to life in rural communes.	☐	☐
☐	☐	17. Medical care, including dental care, will be available at very low cost to everyone through government health plans.	☐	☐
☐	☐	18. Internal combustion engines (as in today's cars) which burn gasoline or oil will be outlawed.	☐	☐
☐	☐	19. The governments of all nations will agree to destroy all existing nuclear weapons and to outlaw their use.	☐	☐
☐	☐	20. There will be a guaranteed income for all families sufficient to provide good food and housing.	☐	☐
☐	☐	21. School attendance will be voluntary after completion of the eighth grade.	☐	☐
☐	☐	22. Many kinds of factory jobs, clerical jobs and even selling jobs will be eliminated by computers and computerized machinery.	☐	☐
☐	☐	23. The economic well-being and political power of blacks, Spanish-speaking Americans and Indian Americans will be strongly improved.	☐	☐
☐	☐	24. Cities will seek to reduce pollution and traffic congestion by regulating the use of private automobiles, imposing much higher gasoline and license taxes, restricting entry to downtown areas at certain times of day, etc.	☐	☐
☐	☐	25. A larger proportion of young adults will consciously decide against marriage.	☐	☐
☐	☐	26. The Japanese will become the most technologically advanced nation in the world.	☐	☐

Column A			Column B	
I believe it:			If it did happen, I:	
will happen	won't happen		approve	don't approve
☐	☐	27. Certain activities deemed harmful to the planet's environment (dumping containers of radioactive waste in the ocean) will be regulated by world law, backed up by powers to punish offenders.	☐	☐
☐	☐	28. The standard work week will be four days instead of five.	☐	☐
☐	☐	29. Many new occupational fields will open up, providing enough new jobs for people whose old jobs become obsolete.	☐	☐
☐	☐	30. A woman will be allowed to bear only one child because of the dangers of overpopulation.	☐	☐

Indicate whether you agree or disagree by checking one of the spaces for each item.

agree	disagree	MARK ANSWER SHEET ONLY
_____	_____	31. New inventions are causing more trouble than they are worth.
_____	_____	32. People were happier in the past when they didn't have all the modern "conveniences."
_____	_____	33. The white people of the world always have had the most advanced technology.
_____	_____	34. Technological progress keeps our nation strong and we should encourage all possible inventions.

In your opinion, which of the following developments represent "progress for mankind?" (Check as many as represent progress.)

_____ 35. The SST (super-sonic transport) which carries passengers at 1,500 m.p.h.

_____ 36. nuclear bombs

_____ 37. exploration of the moon

_____ 38. computer selection of potential marriage partners

_____ 39. color television

_____ 40. birth control pills

_____ 41. nuclear power plants

Thinking Future in School

For most of us, thinking constructively about the future requires certain adjustments in the way we ordinarily think.

For the most part we have been conditioned to think in ways that actually hinder us from creating the sorts of futures we would desire if we were given the choice.

The facts are, however, we *have* been given the choice. All of us have, potentially, a good deal more to say about the kind of future that will be ours than we ordinarily admit and surely more than we usually take advantage of.

The articles which follow will provide a general introduction to future thinking with particular emphasis on future thinking in the schools. In these articles some of the favorite techniques of the futurists are described:

Linear projections
Non-linear systems thinking
The futures wheel
The cross impact matrix
"What if" exercises
The Delphi technique

There is nothing esoteric about these devices. Adults of any age can learn to use them. Students at any grade level can be taught to think in these ways — the younger, the easier. For the futures techniques in general describe the creative, holistic way in which children think before they come to school. One futures educator and writer, Betty Franks, has captured this notion in her expression: "Children are natural futurists."

The first article, "Teaching About the Future" is by Allan Peakes, Paul Burnim, Mark Cherniak and Christopher Dede. At the time it was first published all four contributors were associated with the program for the Study of the Future in Education at the University of Massachusetts — Amherst. The article appeared in essentially this same form in Instructor, August/September, 1973.

"Futuring: A Look At Tomorrow Today" is reprinted from the January, 1973, issue of *Instructor*. Its author, Jerry Glenn, has been with the University of Massachusetts — Amherst and the Committee for the Future, Inc. He now directs his own corporation, Future Options Room in Washington, D.C.

Teaching About the Future

Historically, education has been influential in determining the directions of American society. Our civilization's present is not changeable, but its future can be influenced. As educators, therefore, it is our responsibility to help students develop short-term and long-term goals for themselves as individuals, for the nation and for the world.

Helping students to develop these goals is a process made difficult yet at the same time urgent by the swiftness with which technology has advanced in the last hundred years, resulting in broad social upheavals. John Platt has used these approximations to illustrate this point.[1]

1865-1965

Control of disease — 100 times greater
Speed of travel — 100 times faster
Energy resources — 1,000 times greater
Speed of handling data — 10,000 times faster
Power of weapons — 1,000,000 times greater
Speed of communication — 10,000,000 times faster

Never before have human beings gained such vast power over nature in such a short period of time. Never has it been necessary for our social structures — including our educational system — to change so quickly to keep pace. Their inability to change quickly enough has made our present unique.

In its struggle to control its technological powers, American society is likely to undergo considerable change during the next 30 years. Children, from kindergarten on, must be given the skills and information they need to act as responsible citizens during this period. The goals of such "future studies" are 1. To help each individual develop his own ways of thinking about the future, enabling him to anticipate the events that will influence his life; and 2. To develop the potentials for growth so all may live in a future of their own choosing.

[1]Platt, John. "What We Must Do," *Science*, 28, (November, 1969), pp. 115-21.

Schools are not now fulfilling these goals. We asked children in a day-care center in Amherst, MA, to draw pictures of their past, present and future activities. Most of these children's drawings of the future were far more vivid and dynamic than their pictures of past and present. The reason? The kids said they anticipated that the future would be more fun than the past or present. Yet when a similar exercise was tried with secondary students, the youngsters' vision and enthusiasm were missing; high school students found the future unimaginable except in vague terms.

One of the reasons for this disparity is that our present curriculums and teaching methods offer little support for the pursuit and construction of images of the future. Yet the burgeoning field of futurism demonstrates that a multitude of persons in widely ranging fields feel that the future can be shaped. They are also developing skills and building a body of knowledge about how to do it.

Can Futures Thinking Be Taught?

What is this "future" that we have been discussing? Any attempt to give a definitive answer leads us straight into philosophical discussions and endless confusion. However, we can make several general points.

First, our perception holds open for us the experience of the here and now. But through our normal consciousness there is an awareness of what Dutch futurist Fred Polak calls "the Other."[2]This Other represents imagination, vision, images of a different context of space/time. These images are to be found in all cultures, both in individuals and in society and includes such ideas as a lost paradise, Valhalla, ancient myths, future utopias.

Second, we perceive past-present-future in two ways. We watch the clock proceed through a linear sequence of numbers. This linear time encourages cause-and-effect thinking and helps us organize our

[2]Polak, Fred. *The Image of the Future.* (Amsterdam: Jossey-Bass, Elsevier Scientific Publishing Co., 1973), pp. 3-4.

activities. But we have another awareness of time. We sometimes notice that hours pass more quickly or slowly, even though the clock has not changed its rate of speed. We "lose track of time." Our thoughts and dreams are often expressed in other than one-two causal ways.

As these two points suggest, the most important component of a futures curriculum or "methods set" is a reality base involving a past-present-future tense and linear/nonlinear thinking. Someone might logically ask how a classroom activity can have its base in present reality if it is concerned with what is yet to happen. But, why not? Today always contains some of the characteristics of yesterday; yet it is unique. Tomorrow will have similarities to today; yet be different. What will cause the difference? In what direction?

Every event has a past that consists of multiple causes. It also has a future consisting of multiple possibilities. We are used to deepening children's understandings of a present event by helping them learn about its history. It is equally valid to help them speculate knowledgeably about the event's future.

Techniques for Teaching the Future

Our approach to "futurizing" the curriculum is not to add another course to an already overloaded schedule, but to incorporate futures ideas, tools and applications into every subject. In social studies, science, even such study areas as physical education, the future can be introduced as a legitimate time frame for speculation and disciplined exploration. The viability of this approach lies in its flexibility. Existing curricula need only slight modifications. You need no new teaching skills, just a new attitude and understanding. Resource materials are not really needed, either, although they are helpful and are beginning to be available. By using the ideas and techniques discussed here, you can help your students' awareness of the future tense become an integral part of the learning process.

We have found that body analogies can be effective vehicles for introducing primary children to the concepts of change and continuity. Specifically, students are asked to trace their own physiological development up to now; then what they expect to look like in 10 years. Doing the same for classroom pets and plants furthers these concepts. Patricia Guild of the University of Massachusetts integrated day program has developed a mind-stretching addition to this exercise. She furnishes the children with depictions of 80 items, starting with separate parts of the human body and including parts of animals, fish, birds and machines. (You can do the same by drawing them on paper or cloth or cutting from magazines.) The children are asked to place these parts on a flannel board to represent a future body.

Such activities almost invariably result in students asking questions concerning these changes of being. They'll ask, "Why did I grow this big?" "Will I look like my sister in high school?" "Why will I look different?" Topics for discussion include how the child grew to his present state and some of the ways he can anticipate growing in the future. The interaction of the child with his environment can be shown using the concept that things will change tomorrow. It can then be pointed out that the elements of the change and the anticipated rate of change combine to form a trend — in this case, the trend of the child's future growth.

Next we can introduce the idea of multiple causes and multiple results. A good way to do so is to show students how to use a device called the "Futures Wheel" originated by Jerry Glenn of the Program for the Study of the Future at the University of Massachusetts. (See *Instructor*, January '73.) To draw a Futures Wheel, a label for an idea, trend, object or activity is written in a circle which can be thought of as the hub of a wheel. Related ideas are placed around the circle at the end of the lines that form the spokes. The wheel can be used either for the present or the future, although each should be self-consistent. One wheel could show the causes of an event while a subsequent one could chart the hypothetical paths of the future of the same event. As the wheel grows more complex and the events more interrelated,

it becomes easier for the student to grasp multicausal concepts.

Another device useful for future studies, especially for older children, is the Delphi technique. Questions about future events are asked of a number of persons, who must back their opinions with reasons. The questions can ask when an event might occur, its desirability, and possible social consequences. The replies are circulated and the participants asked if they would like to change their original estimate or repeat and support it further. This is done once more and a final report is compiled from the last round of replies. Delphi is considered a good way to stimulate and cross-fertilize ideas about the future.

An example of how to use this technique to introduce new future concepts is to ask students to choose from alternative dates the likelihood of some occurrence. A starting set of questions could concern short-range events: What day will the cafeteria serve spaghetti? What day will the principal wear a red shirt?

Long-range questions can be given a choice of answers (Tomorrow, 1975, 1980, 1985, 1990, 1995, 2000, 2001, 3000, Later, Never) and students asked to give their most thoughtful estimate. Such questions might be: When will school become year-round? Voluntary? Attended only by means of TV? Or, when will we be able to live underwater? When will the span of life become 100 years? Students write their chosen dates and reasons for their choices and the range and distribution of answers are compiled:

	Tomorrow	1975	1980	1985	1990	1995	2000	2001	3000	Later	Never
Question A				4	15	1	3	2			1
Question B			3	5	4	11		1	2		
Question C		8	7	9	1		1				

In a few days, the questionnaire is repeated, this time including the chart and again the answers are charted. A third round could be instituted if time and interest allow. The final set of answers can then form the basis for a lively discussion. The teacher should point out that informed opinions have a better chance of being correct but a far-out, intuitive estimate may turn out to be right.

Another technique that can be used is scenario construction — the creation of a story that describes a future situation and the plausible events that led up to it. An example we have used with grades four to seven is the story of a visitor from outer space. He has announced his arrival on earth and his intention either to destroy the earth or make it into a paradise. Students are asked to construct the possible events that led up to the situation, explaining the reason for the visitor's journey.

The scenario also can be used to create alternative pathways toward the future. For example, students, individually or jointly, could write six biographical sketches, each concerning 50 years in the life of a person on each of the world's inhabited continents, who finally meet and compare notes.

A good example of how futures studies can result in a highly effective and motivational study unit was a project on future communities by Lauren Marx and her third grade at Crocker Farm Elementary School in Amherst, MA. Once the children had achieved sufficient understanding of the techniques we have discussed, 14 lessons were developed on today's school, community, wants and needs, interdependency and so on; then moved into planning a model community, predicting changes and a changing You.

The students found it necessary to travel outside the school to many places. They explored the viewpoints of parents, government workers, shopkeepers and farmers in a multiplicity of situations. Through these elementary lessons in applied economics, sociology, psychology and government, pupils were able to internalize the need for social institutions, to keep things running and resolve conflicts.

In using these futures tools, our experience

has been that teachers who tend to prefer a traditional type of classroom feel most comfortable with the techniques of introductory trending, the Futures Wheel and scenario construction. The Delphi technique, the future body and similar activities and projects such as the future community are perhaps better suited to open classrooms.

At this point in your reading, try a simple exercise with yourself. Try to remember what you were doing five years ago at this same time of year — as much of the experience and your feelings at that time as you can recall. What were your images of the future then? What did you think that you would be doing now? What has changed? What events that were not imaginable then have occurred, for you personally and on up to the entire planet? Move up to the present. What do you imagine now? What are your deepest concerns for yourself? For the world? Now project your thoughts into the future. What is the most ordinary thing you could be doing in five years? What is the most extraordinary kind of life you could be leading? What plan could you make now to improve the probability of an alternate future?

If you feel overwhelmed by the potential for nonimaginable experiences, you are not alone. The possibility that almost anything can happen seems as powerful as the possibility that we can choose our futures. But it is this choice, guided in some way by our personal images of the future, that leads to new experiences and growth. The work at the Program for the Study of the Future in Education at the University of Massachusetts is directed toward this process of helping individuals learn to "realize" alternative futures in the context of all their potential learning opportunities. It is your privilege to do the same for your students. □

Futuring: A Look At Tomorrow Today

Over the years we have created learning environments that enable students to discover the *past* more freely than ever before. But it is no longer adequate for children to learn about the past. Nor is an uncritical awareness of the present adequate. To insure survival, psychological as well as physical, man must learn to think about the possible futures that can grow from the present; he must understand more fully what has to be done today to prevent the undesirable and create a more desirable future.

Because we have concentrated the major part of our education on past and partial-present awareness, our nation has been surprised by race riots, widespread drug abuse. . .pollution, depletion of resources, crime, violence, rising anxiety. If our science teachers had facilitated our thinking into the future, we might have recognized the possibility of widespread drug usage, pollution and technology's devouring of resources. If our social studies teachers had led us into thinking into the future, we might have recognized the possibility of widespread anxiety, race riots and cultural violence. This is not to say that teachers are solely responsible for our social failures. But education is part of the problem and hopefully will become a strong element in the solution process.

Partly because our education did not use the past and present to anticipate possible futures, our people are demanding "crash" programs to solve pollution, racial and violence problems.

We must develop and test. . .approaches that will help young people think in an anticipatory way about future consequences. Such thinking will serve two purposes. First, it will help students to look for and recognize future trends. Second, it will make them realize that the future depends to a great extent on what is happening in the present and heighten their awareness of present occurrences.

How do you foster such an outlook?. . .

Take a topic as familiar as transportation, for example. Futuring this topic calls for consideration of such aspects as the situation as it is today, the question of using individual versus mass-transit vehicles, the availability of a plentiful and economic fuel supply, the need to move large numbers of people quickly, the safety of vehicles and the fact that people will demand convenience and comfort in getting from place to place. Pupils will think of related aspects — the need to allocate even more land areas for transportation routes, the possibility of staggering working hours in high industrial areas to alleviate traffic jams, the significance to the economy of fewer personal vehicles being manufactured because more and more people use the mass-transit systems. As pupils discuss some of these possibilities, their view of today and its problems will lead them to consider actions and decisions that must be done now to solve future problems.

You can then go on with this more highly developed future-oriented. . .process. It may be divided into four steps.

1. Each student identifies for himself the trends of a particular topic.
2. Individually or in groups, students make projections into a future date describing what life may be like, determined solely by those trends identified in the first step.
3. If that future state is not desirable, students then invent and describe what would be desirable.
4. Finally, students work back in time from the desirable future model to the present in order to learn what needs to be done to bring about a more acceptable future.

Let's investigate more closely what each of these steps involves.

Trend Identification

A trend is an influence on human behavior that noticeably increases or decreases over time. It must be existent in some form in the past and present and reasonably expected to continue into the foreseeable future. Population increase is an example of a trend.

List trends that are mentioned in a class discussion — increased use of motorized vehicles, increased amounts of fringe benefits provided with each job, decreased numbers of one-man owned and operated businesses and farms and so on. The list can be almost endless as pupils begin to think.

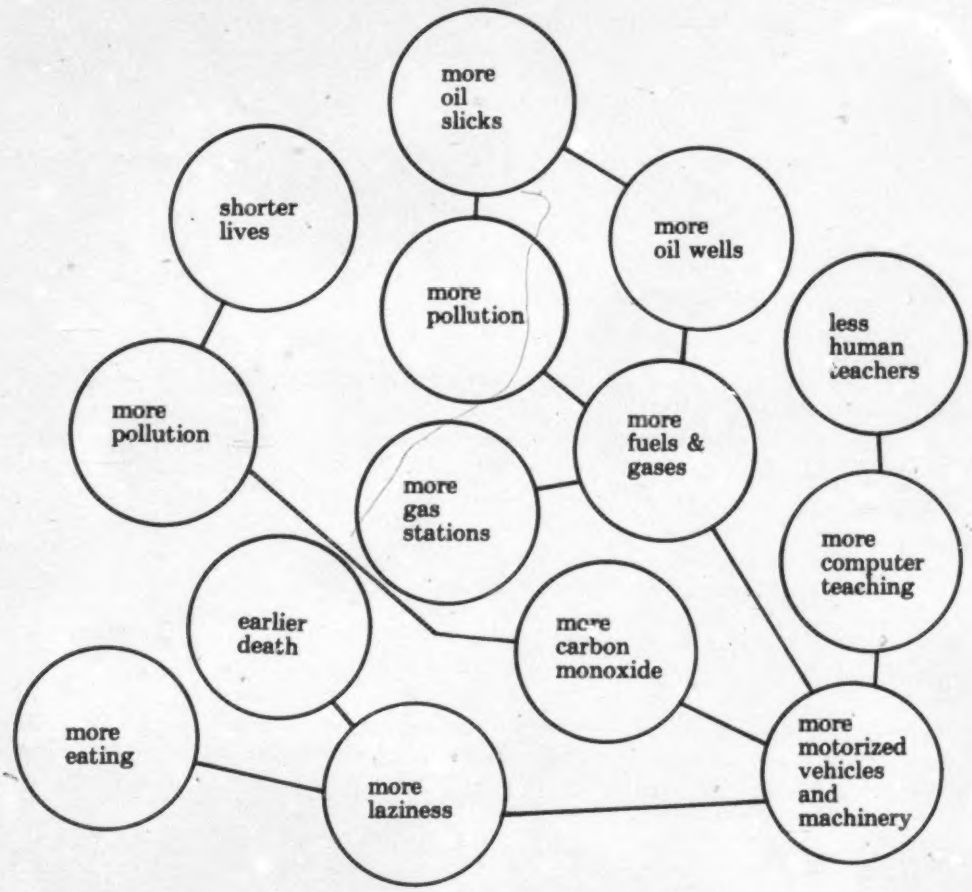
To illustrate the effect of trends on people, suggest pupils think of a trend as a magnet that attracts or repulses. Then imagine a bunch of magnets arranged on the walls of a cylinder. With the cylinder lying on its side, the front end represents the past, the middle, the present and the end the future. Small pieces of metal might represent people or groups of people. As these metal pieces are thrown through the cylinder, they will change their straight-line trajectory depending on the relation of the magnets to each other and to their pull on the metal pieces. The overall paths of the pieces together going through the cylinder may be thought of as the course of history.

Students might go through magazines to cut out pictures of increasing or decreasing influences on people like pictures of more locks on doors, fewer religious pictures on Christmas and other holiday cards and so on.

One way to help students understand the complexity and implications of their trends is the use of a future wheel. A pupil writes a trend in the middle of a sheet of paper, then draws lines out from the center, like the spokes of a wheel. At the end of each line, he writes the factors and the results of the central trend.

This technique clearly demonstrates that a single trend cannot be thought of as isolated from other factors in society. After trend identification, we must see where such trends might take us.

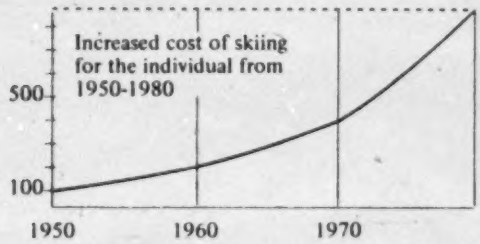
Here is an example of a pupil's wheel:



Future Projections

Where are we going? Groups of four or five students might get together to put their trends on one wheel for projections or to put them together on a graph. Many future forecasts are made simply by graphing. Plot a trend from some point in the past to the present, then with a dotted line continue out the curve to the date which you wish to project. This is the forecasting tool used by those who say. "*If present trends continue,* we can expect the world population to double in the next thirty years." It may be difficult for pupils to get data with which to plot a graph, so here's a suggestion. Suggest they survey the community or students in the school as to how much each thinks something is increasing or decreasing. Let's say the trend is the increasing cost of skiing. Suppose they call the cost of skiing for each individual 100 in the year 1950. Then ask what it would be called in 1960, and 1970. Did the cost go up two times, three times? Pupils could average all the responses they secured to arrive at a figure for graphing.

Here's a graph that one committee developed:



Based on the opinions of the community and projecting those opinions, we can say that we expect that the cost of skiing will increase nine times from 1950 to 1980. (Some pupils are sure to argue, of course, that the facilities for skiing have much improved over those years. It's true that the higher cost has brought with it new and more efficient ski lifts, better cared for slopes, luxury ski shacks with all sorts of conveniences and so on — another topic for further deliberation.)

Another way students can put their trends together is with the cross-impact matrix. Team up four or five students into groups. Ask the groups to put their trends together and have them discover the interrelationships. Each person's trend is listed down in a column at the left of a piece of paper, then listed again across the top of the paper. A checkerboard matrix is made and filled in. To complete each box ask, "If the trend in the down column continues, how will it affect the trends in the top row?" This technique can be used to show the interdependency of almost anything . . .

Future Models

With these tools or others that you and your students can think up, launch into discussions, simulations, games, brainstorming sessions or whatever. With these experiences as background, have individ-

Example of a matrix:

	MORE CIGARS	MORE PLANES	MORE PHONES	SPACE TRAVEL	MORE WASTE
MORE CIGARS		Special rooms for people to smoke in airplanes	More people smoking while talking on phone	Cigars take up oxygen – not allowed	More ashes in waste
MORE PLANES	Manufacturers coming up with cigars they can serve on planes		Phone booths on airplanes		More waste given off by planes
MORE PHONES		More space taken up by phone booths		Radio phones on passenger ships	Unused phone materials in dump

uals or groups of students write, paint, create a play, make models to explain in some way what the future might be like based on the trends identified — assuming that no intervention occurs to change the trends significantly. The students should decide on a date in the future that they all wish to consider. A play expressing a day in that future life should help clarify students' ideas as to jobs, status, family living and other important issues of that time in the future. It should also help them begin thinking whether or not that future is desirable.

It will be interesting to note the differences between students' projections. The assumptions each makes about the future is one way of understanding one's actions in the present. Discuss with pupils why there are differences. Are they confusing what they *think* will happen with what they would *like* to see occur?

This easily launches into a discussion of what they believe is the best future or what they want the future to be like. If the date of the projections is 1980, suggest pupils explain in some form what they want 1980 to be. Try to help them "taste, touch and feel" what that desirable future might be like . . .

Policy Creation

What must be done for a better future? The example of a tree may be helpful to show students how to trace back to the present tense from the desirable models of the future. Think of one leaf on a tree as the desirable future model among many other leaves (other possible futures). For the water to get from the roots to that leaf, it must travel through many "forks in the road." The forks may be thought of as decisions or actions. The water has to make "correct decisions" at each fork or else that leaf will never grow. In a like manner, certain policies (actions or decisions) must happen for the desirable future to grow out of the present. If growing corn is a desirable future, then there must be land, seed, water, necessary nutrition in the soil and sun. So one's policies would be to find land and seed, check the soil and see to it that water and sun is available. It is obvious that corn will never grow if one of those policies is not actualized. Similarly, the students' desired future will not come about unless certain decisions and actions come first. Can pupils figure out what are the necessary steps to the future they desire? Do they have a reasonable chance of completing the steps?

Suppose your group wishes to begin putting some of these steps into motion. Then a brainstorming session is in order to develop as complete a list as possible of all the policies which must happen to achieve their desirable future. Once the larger list is made, have each student individually cross out all those policies he or she could not work on due to personality, age, geographic position or other factors. From the remaining policies, cross out all those that would not begin to yield visible results or desirable by-products within six months (people tend to be remotivated by positive results of actions). Then from the remaining list, pupils can pick the ones they would enjoy doing the most. This is a simple method for finding policies that make a difference, are important for a better future and that have a reasonable chance of being carried out.

This . . . process is by no means a complete or perfect model . . . . It is one approach. One caution — don't do steps one and two and stop there. This tends to leave students with a negative view of the future. If you are going to do steps one and two, go on to at least three so that pupils don't become molded into one view. It is not important that the steps be done in sequence. We have begun the process with step three, sometimes with step two. It seems to be "easier" for pupils to begin with step three, but we have not observed long enough to know if students learn and create more useful information by beginning at any one step rather than another. And, of course, there are an infinite number of ways to begin any step.

Making a Futures Wheel

Let's practice with one or two of the devices we have read about, beginning with a "futures wheel." This can be done individually, or in a large group. However, it is interesting to let several small groups each make their own wheel from a single idea, then bring the whole group together to compare results and make a large composite wheel from the several smaller wheels.

For the center of the wheel, use any idea of which you read in the articles or any idea that is of interest to your group. Here is one more example and instruction set if you need help getting started.

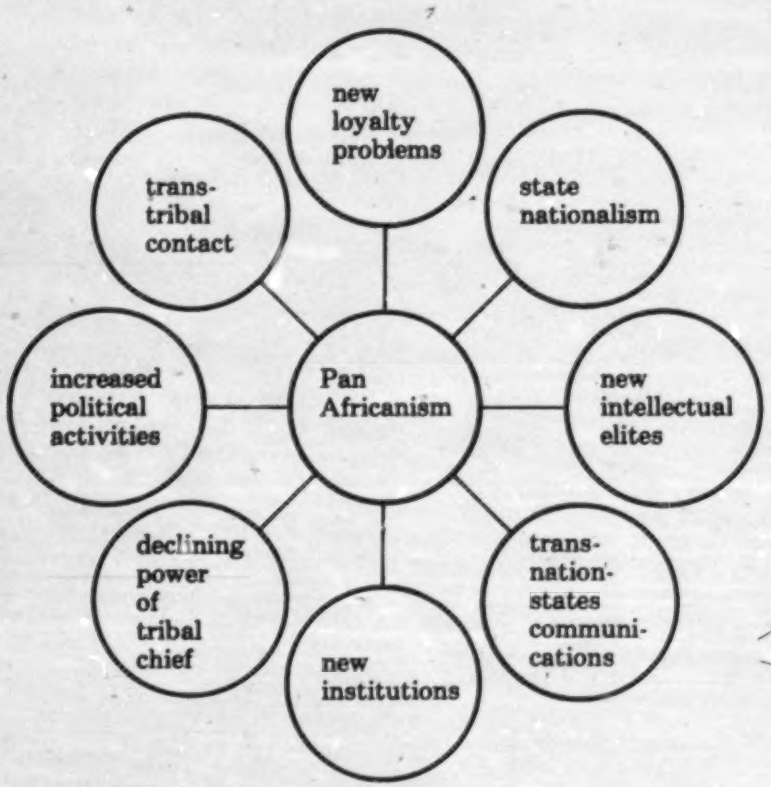
> Place anything you want to understand (event, trend, idea, or whatever) in the middle of a small circle in the middle of a paper. Draw lines spoke-like out from your circle. At the end of the lines write what goes with it — its implications, consequences, associations and such. If you wish, you can then run out consequences of the consequences and so forth. This gives a future orientation to the understanding you generate from your original item in the middle of the circle.

Let's say you are reading about Africa and wish to understand Pan-Africanism. Place the term in the middle of the circle and put associations at the end of the spokes.

For examples, see figure 5. For worksheets, duplicate figure 6.

Naturally, this can get out of hand if you keep running new lines out. There are visual and spatial limits!

After you have written some of the first order associations, put circles around them and run out more lines for further associations.



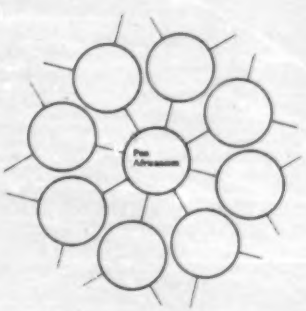
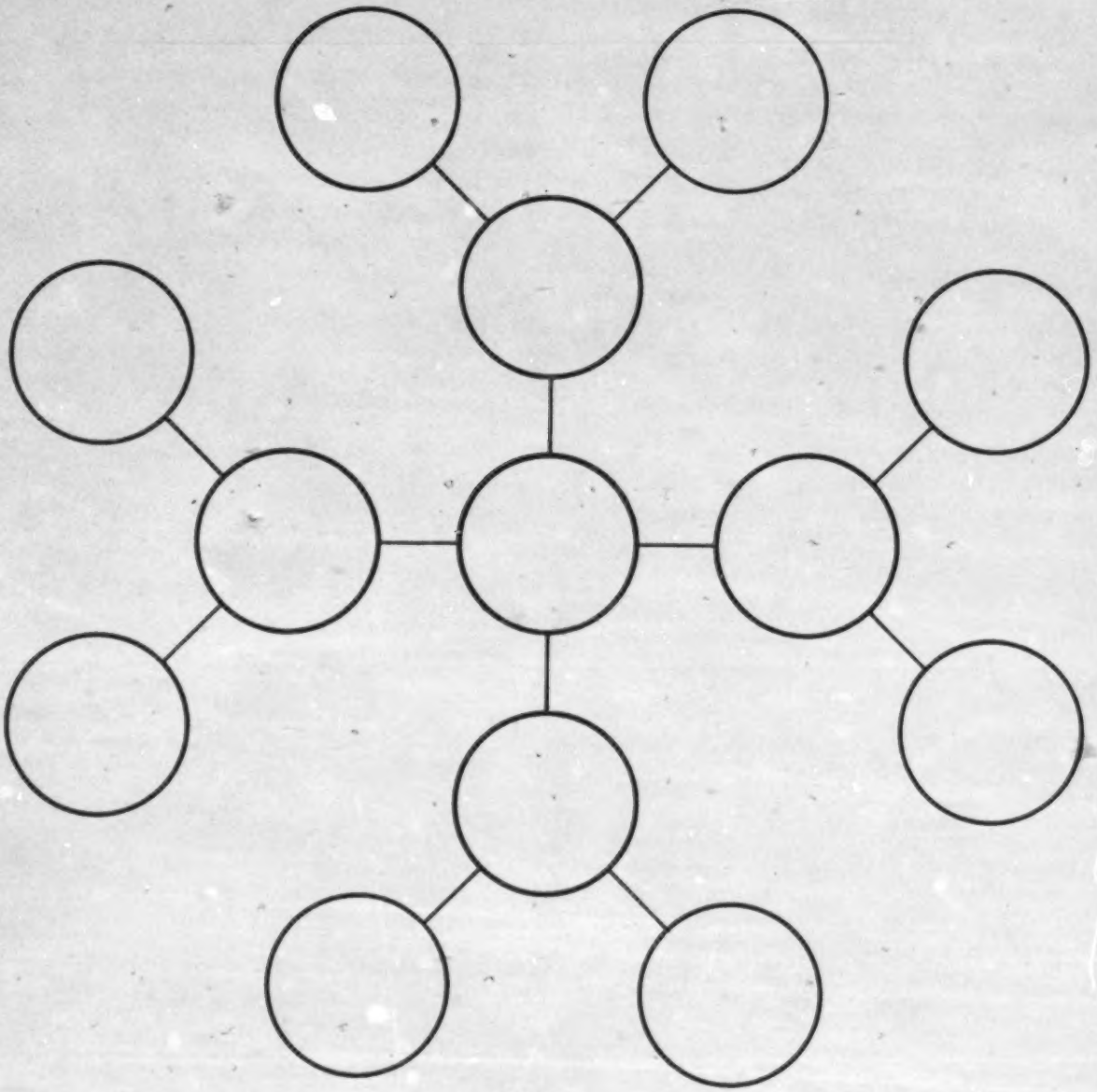


Figure 5



46

Figure 6

Figure 7

	Jamocha Almond Fudge	Vanilla	Pistachio	Peach	Rainbow Sherbert
Jamocha Almond Fudge	X				
Vanilla		X			
Pistachio			X		
Peach				X	
Rainbow Sherbert					X

How Many Kinds of Ice Cream?

The cross-impact matrix is another useful tool for thinking about the future, since it can enable even the least creative among us to visualize the interrelatedness of a variety of causal factors. The matrix can be a mechanical way of fostering "creativity." For example, try making a cross-impact matrix with five flavors of ice cream.

How many flavors can be created by mixing two flavors at a time?

What will these flavors be?

How many of them sound appealing?

Do you see interesting flavor combinations that you would not have considered without seeing them on the matrix?

A math problem for ice cream eaters: What is the formula that will tell us how many new combinations are possible on this kind of matrix, regardless of how many flavors we include?

If ice cream seems trivial as an example, try a more serious matrix using your own ideas generated from interests in your group.

A Human Need/Trend Matrix

If you are ready for a *really* serious example, here is another suggestion from Jerry Glenn. The human needs (safety, love and belongingness, physical, esteem) listed on the left side of the figure 8 matrix are taken from Abraham Maslow's *Motivation and Personality* (New York: Harper and Row, 1954). In this book Maslow presents his classic formulation of human needs.

Figure 8 demonstrates the use of the matrix to determine the interrelationships of universal human needs from Maslow and some global trends. On a separate piece of paper, list what these relationships are, that is, how one influences the other. For example, box 11 would be answered by asking, "How are your esteem needs influenced by urbanization?" After listing answers to the 24 different boxes, go back to the original trends to see how they might be modified to enhance human need satisfaction.

The Immortality Game

Here is an opportunity to try a number of future-oriented techniques together. The "Immortality Game" requires the use of a futures wheel. It calls for commitment on serious value-questions. It requires a personal choice. It can lead us to think seriously of the possible consequences of alternative courses of action.

	Population	Science/ Technology	Urban- ization	Transcience
Physical	1	2	3	4
Safety	5	6	7	8
Esteem	9	10	11	12
Love and Belongingness	13	14	15	16
Self-Actualization	17	18	19	20
Aesthetic	21	22	23	24

Information Base:
Late last spring the Salk Institute developed a vaccine which, when injected, will stop aging for one year. If it is injected yearly then the animal receiving the injection will be "frozen" in time and will not age. The cost is 10 cents per shot. It does not need refrigeration.

Task 1
You sit on a super secret decision panel that will decide whether or not you will allow this vaccine to be announced and/or used. There are probabilities that the information is already into the underground but nothing has yet been substantiated. Good luck.

Task 2
If you decided to disseminate the vaccine, you must then suggest the method for that dissemination. Please be as specific as you can.

Task 3
If you decided not to disseminate the vaccine, please be prepared to defend your decision.

Task 4
Using a futures wheel, please place the vaccine in the center and then list the possible effects of the vaccine. List the effects of those effects and at least one more level beyond that.

Task 5
Project yourself into a time when the vaccine is available for the asking. Write a letter telling why you want to use it or why you do not.

An Epitaph

There is no topic more difficult to discuss freely than death. Greater taboos surround the discussion of death than any other topic — including politics, religion and sex. This is one reason why the future itself is so difficult for us to face realistically, since any serious looking to the future involves a looking toward our own deaths.

Many psychologists now argue that much of human behavior is explicable in terms of the repressed fear of death. We are gradually coming to see that our ways of dealing with death are even more determinative of our behavior than Freud supposed were our ways of dealing with sex.

On the other hand, we are being urged by those in both the recent fields of death research and futures research to take death seriously on the ground that preparation for death also is the best preparation for life. Thus the Center for Death Education and Research at the University of Minnesota argues that "coming to terms

with the fact of death can offer a more meaningful life" in a death-denying culture. Likewise, Dr. Elizabeth Kubler-Ross, in *On Death and Dying* has argued that the stages of dying are also stages of living; that the acceptance of one's own death is the key to the acceptance of all lesser losses in life as well as the key to the acceptance of life's joys and blessings.

Thus it seems appropriate to ask students to think about their own future by consciously writing their own epitaph. Include in the sketch the following information:

Date of birth
Schooling
Jobs held
If and when married
Information about children if any
Manner of death
Age at death
Manner of interment (buried, cremated, body to science, etc.)

This exercise need not be morbid but can be a very useful tool in getting us to think about our own personal futures.

Future Values

Additional information about futures thinking, its relation to values inquiry, and some excellent exercises, are contained in "Future Values For Today's Curriculum." This article by Drs. Richard D. Van Scotter and Jon Cauley first appeared in *Scholastic Teacher* (February, 1974) and is reprinted with their permission.

Virtually all of the exercises suggested by Van Scotter and Cauley have a bearing on the choices one makes with reference to future careers. Obviously, some of the items are especially pertinent to this unit. For example, the "What Would Life Be Like" exercises are clearly important to planning a life of meaningful work as we face the future.

Future Values For Today's Curriculum

Dr. Richard D. Van Scotter is an assistant professor of education at Grinnell College and Dr. Jon Cauley is an assistant professor of economics at Arizona State University. They developed the ideas for this article at the University of Colorado, where both men earned their doctorates and served on the staff.

. . . A retired crane operator rocks back and forth on a mild summer evening telling his great-great-great-grandchildren what it was like to grow up in the city when he was a young boy. He has been retired for 70 years, over one half of his life. He now is 130 years old, thanks to medical advances which have arrested aging, and he can expect to live another 50 years.

. . . A college president besieged with student requests for control over the curriculum, elimination of grades and a voice in hiring teachers, sends a memorandum to the food services director. The memorandum states that henceforth all students will be served food containing a harmless, undetectable drug that will make them docile, obedient and uncritical.

. . . A physician enters an impressive laboratory containing 500 artificial wombs. Emerging from the wombs are 500 male babies, genetically alike. Nine months earlier their "father," a prominent engineer, IQ 160, donated some skin which had been scraped from his leg by a physician.

Today these events are fiction. Continued advancement in already rapidly developing areas of biological research will make them a reality someday. The value or moral questions prompted by such developments will be staggering for society.

Values Education

Values education has had a place in the general curriculum for some time. Though this article focuses on the social studies, its subject matter and exercises are applicable to a variety of curriculum areas, particularly the natural sciences.

In the past, social studies has been an instrument of values enculturation in the schools. Enculturation has been brought about by teaching an acceptable body of knowledge — acceptable to the academic disciplines, society and the community — largely through textbooks.

Contemporary social studies demonstrates a shift in emphasis toward values clarification and analysis. Though by no means has this shift been complete. As Alan Tom explains in *An Approach to Selecting Among Social Studies Curricula* (published by Central Midwestern Regional Education Laboratory in 1970), social studies classrooms still embrace two incompatible positions. One he distinguishes as "developing student's ability to make rational value judgments." Nevertheless, there is a shift away from teaching values to teaching *about* values.

The movement toward values clarification and analysis is not likely to decrease in the years ahead. The treatment of values in this fashion has been emphasized, we suspect, for several reasons. Clarifying values provides a means of resolving conflicts in values. The Harvard Social Studies Project is a prime example of this position. It starts from the premise that the "American dilemma" is based on the existence of incompatible or conflicting values in society. Analyzing values provides a process of arriving at a rational, data-based position when valid judgments are necessary. The study of values also serves to foster open, flexible and tolerant student behavior. These qualities are necessary to cope intelligently and justly with the social problems encountered by citizens in our society.

Generally, values or value judgments have been studied in the context of present time. If past values enter the curriculum, they do so coincidentally, through the transmission of tradition, beliefs and knowledge related to the enculturation process.

Future values have been neglected also in social studies education, even though their

study would be consistent with values clarification and analysis. Presumably the study of future values has not been included in the curriculum for at least two reasons. First, it is argued, teaching the young to openly approach today's values issues and make rational judgments will enable them to make thoughtful decisions at any time in the future. Second, future values cannot be anticipated. There is no reliable way of knowing what the issues of tomorrow will be; therefore, they must be dealt with as they arise.

The future, however, is not as mysterious and unpredictable as one would believe from looking at a school curriculum today. As the opening sketches suggest, the advent of numerous physical, biological and technological breakthroughs is within the predictable future. Chemical control of aging in man can be expected sometime shortly after the turn of the 21st century, some 30 years from now. The use of drugs to alter specific aspects of human personality is predicted by futurists for as early as the 1980s. Human cloning, a process in which the nucleus of an ovum is removed and replaced by a somatic cell (allowing the development in a host mother of an identical twin of the person supplying the cell) may be operational by the year 2010, if research continues at the present pace.

These scientific advances and many others could have profound effects on the nature and value structure of society in the future. The profundity of these breakthroughs is intensified by the quantity and rate at which they are occurring. As Alvin Toffler has illustrated so dramatically in his best seller, *Future Shock*, the advent of these changes begets many additional changes. Change is taking place at a continually accelerating rate. We are supporting these advances by both research dollars and public approval. Their effects, however, will be realized not by us, but by future generations. The ramifications of today's values and the research patterns they reflect deserve study by the students of this generation who will be making decisions both now and in the future.

Future Values in the Curriculum

Values are the spectacles through which a society interprets the world around it. For better or worse, they provide the basis for human beings' social interactions within the institutional framework they have built. The study of values in the social studies curriculum has been aimed at building a more free and open society. The inclusion of future values in the curriculum adds a crucial dimension to this quest.

Future values can be developed around at least two distinct themes: students can identify and examine current social trends that have implications for society in the future; students can analyze the impact on society of current and future technological changes.

Social trends affect the future. Ronald Lippitt[1] has identified several trends that represent relevant images of the future for educators. One of these he describes as a trend toward "less and less tolerance for depersonalization, for being lost in the mass; less tolerance of pressures for conformity and more expression of anti-establishment feelings." Symptoms of this trend, Lippitt points out, are evidenced in the music of pop culture, in the marked increase in attendance at religious classes on campuses and in the tremendous development of personal-growth programs for adults across the country.

Other trends relevant to the general school curriculum include urbanization, pollution, economic growth, energy depletion, genetic engineering, space exploration, planned environments; the list is virtually endless.

Some lines of inquiry emanating from these trends can be posed by the following questions: What changes in our current values will be necessary for a continuation of this social trend? Will any new and different values develop as a result of this

[1]Ronald Lippitt, "The Dimensions of Change: In Our Society. Our Students and Our Social Studies Curriculum," Publication #134 of the Social Science Education Consortium, Inc. Boulder, CO, 1971, pp. 2-3.

future trend? Will these changes in values tend to make a more open society in the future? If not, what changes could be made to halt this trend or channel it?

Toward A More Open Society Through Future Values

The study of future values today is critical for the construction and maintenance of an open society simply because individual and social decisions today have direct value consequences for future generations. If these value structures become inflexible as a result of neglecting the vast range of future possibilities of a society, that society will become more closed. A later decision may be too difficult to implement; that is, our values may be forced upon later generations as a result of current technological developments creating an irreversible social situation. For example, if a scientific breakthrough prolonging human life is made and applied to society, future generations will be forced to assume the economic, social and ethical responsibilities even though they had no say in the decision.

Therefore, consideration must be given to the consequences to future generations of today's research and development decisions. It should be possible for them to initiate their *own* changes commensurate with their value preferences. In order to adequately provide for such future freedom of choice, it is mandatory to study future values with an eye to long-range social planning for maintenance of an open society.

The following exercises are designed to give students practice in identifying social trends and in analyzing their effects on future values.

Changing Values

What society defines as social problems, current or future, and what it considers as alternative solutions to these problems are based on values. As values change, priorities are rearranged and new problems replace old with a resulting shift in national goals and policies. In view of this:

1. Place the following six values on the chalkboard. Adjacent to the values construct two columns labeled Past to Present and Present to Future.
   Sensitivity to the environment
   Monetary achievement
   Naturalism, i.e., appreciation of nature
   Material progress
   Good health
   Self-centeredness (or disregard of others)
2. Take as examples two social trends, economic growth and pollution. Discuss the relationship of the six values to these two social trends. For example, ask: "How does society's emphasis on economic growth affect one's sensitivity to the environment; likewise how does a sensitivity to the environment affect our economic growth policy?"
3. The students then should consider whether each of these six values currently is deemed more important than in the past (+), less important (-), or of the same importance (0) as in the past. Record the total number of pluses, minuses and zeros in the Past to Present column beside each value. The class should sum the pluses and minuses of each value to obtain an index score; zeros can be treated as neutral responses and ignored. For example, if a class of 25 students gave monetary achievement 20 pluses and 5 minuses, the index score would be +15.
4. Next, ask the students if they expect each of these values to become more important in the future (+), less imporant (-) or remain the same (0). Record and total the responses in the column labeled Present to Future and obtain another index score.
5. Discuss the two scores obtained for each value. Are they different? How much are the scores different? Why are the scores different?
6. In conclusion, the teacher should pose the following questions: "What might have been the consequences, both now and in the future, if changes in these values had not occurred?" "What social policies were enacted as a result of these value changes?" "With reference to the column, Present to Future, do you anticipate future social legislation regarding pollution and economic growth?"

Other trends can be analyzed in the same way.

What Would Life Be Like If . . .

In this exercise students are asked to consider what their lives would be like if certain events happened in their future. Each student should select a future event from the list below and prepare a short theme or composition on how it would affect his or her life. For example, if a student takes "What would life be like if I become very wealthy someday?" he or she could examine his or her own beliefs about the desire to do hard work, friendship, respecting others, welfare for the poor, intellectual virtues, self-reliance and so on. Here is a list of other future events students could use for their compositions. What would life be like if . . .

. . . you could visit other planets as you visit other cities today?
. . . you retired at age 45, but lived to be 145 years old?
. . . you could communicate with others using E.S.P. (mental telepathy)?
. . . it was decided that 50 babies, the exact duplicate of you, would be artificially produced?
. . . you lived in a "raceless" society?
. . . cars were only available to rent or lease on long interregional trips?
. . . your job became obsolete every five years?
. . . it was necessary gradually to reduce the nation's economic growth rate?
. . . you were only allowed to fill one small garbage can per week?
. . . you lived in a domed city under the ocean?
. . . the personalities of your friends were constantly being artificially altered?
. . . you could read people's minds?
. . . you had a sophisticated computer implanted in your brain?

Predicting Future Innovations

This exercise is designed to introduce students briefly, but dramatically, to potential future innovations. The teacher is to read aloud one-by-one the questions listed below. After each question is read, those students who take an affirmative position should raise their hands. After completing the list, the class should discuss the reasons for their stance on each issue.

Preface each of the following questions with, Who believes that . . .

. . . schools will consist almost totally of teaching machines and students will learn by themselves at their own speed?
. . . the life span of human beings will be well over 100 years?
. . . children will be raised more strictly than they are now?
. . . life on other planets will be found?
. . . babies who are exact facsimiles of another human being will be produced artificially?
. . . people will be able to communicate through E.S.P.?
. . . people will be able to alter their personalities in specific ways by taking a drug?
. . . people in cities will walk around wearing pollution-protection masks?
. . . enclosed cities will be built in outer space?
. . . enclosed cities will exist at the bottom of the ocean?

The class can discuss whether or not these scientific and technological changes will occur and also whether or not they should occur. The latter question shifts the focus of discussion from predictions to future values considerations.

Evaluating Future Innovations

Reproduce on the chalkboard the 10 possible scientific discoveries below and construct five columns labeled Very Favorable, Favorable, Little or No Concern, Detrimental, and Very Detrimental. Discuss briefly each discovery to assure that students understand. Dates in parentheses are expert predictions for these breakthroughs.[3]

[3]From "Forecasts of Some Technological and Scientific Developments and Their Societal Consequences," a research report for The Institute for the Future, Inc., 2725 Sand Hill Rd., Menlo Park, CA 94025.

1. Chemical control of the aging process, permitting extension of life span by 50 years with a proportionate increase in the number of years of vigor (2015).

2. Sustaining the human body in frozen storage, thereby permitting it to be brought back to life at a later date (2025 plus).

3. Development of "raceless" societies among at least one half of the world's population through interbreeding (2025 plus).

4. Availability of cheap, non-narcotic drugs (other than alcohol) for the purpose of producing specific changes in personality characteristics (1980).

5. A process in which the nucleus of an ovum is removed and replaced by a somatic cell, allowing development in a host mother of an individual genetically identical to the person supplying the somatic cell (1985).

6. Control of people's behavior by radio stimulation of the brain (1985).

7. Availability of complex robots which are programmable, self-adaptive and capable of performing household chores, such as preparing meals and cleaning (1980).

8. Use of mental telepathy as a mode of communication (2025).

9. Discovery of information proving the existence of intelligent beings beyond the earth (2025 plus).

10. Maintenance of the human brain outside of the body for one month (2025).

Poll the students to obtain their opinions on the impact of each discovery if it were applied to society in the near future. After the votes for each discovery have been recorded in the appropriate columns on the chalkboard, the class can offer reasons for their responses. Following this discussion have the students vote on whether or not to apply the discovery to society.

Technology in an Open Society

Assuming a scientific discovery is applied to society, the class should examine the economic, social, political, ethical and ecological consequences. Divide the class into five groups, one for each consequence. Have them prepare for a panel discussion. One member from each group would make up each panel. For example, assuming an increase in life expectancy, the panel could examine the consequences as follows:

1. *Economic:* An increase in life expectancy also will increase the number of years in which a person remains productive. Thus a 100-year life span implies that growing numbers of people beyond the age of 65 may wish to be employed. Leisure time would increase and expenditures for use of this time also would rise. Our social security structure will require revision. The enlarged senior citizen population will have unique consumer demands, such as low-speed automobiles, artificial organs, picture phones and household robots. In spite of the presumed vitality of the older population, a maximum age of employment law might be enacted so that younger people can work.

2. *Social:* A shifting of the median age of the population may be accompanied by greater urbanization. Great leisure communities may be formed to resemble periods from the past. This artificial return to a more gracious age would provide retired citizens a choice, for example, of Colonial or Gay Nineties cities having modern advantages but requiring strict adherence to the mores and technology of the earlier era.

3. *Political:* The older people may form a political group of considerable power and significance. It is likely that they would have a large and therefore strong enough power base to enact special legislation.

4. *Ethical:* The sustaining of life, not unlike the begetting of life, places an increased obligation on society, especially if the people expect life to be increasingly enjoyable and stimulating. If the decision-makers are to maintain an open society that provides the individual with an increasing quality of life, they will have to be responsive to many of the economic, social and political consequences described above.

5. *Ecological:* Other things being equal, longer lives mean that more people have to be supported at any given time. An increase in the population has far-reaching effects on the supply of natural resources needed to sustain human life. These resources can be depleted through human consumption, land development and displacement and pollution.

Other technological innovations which can be successfully explored by the panel in light of the five consequences are human cloning, frozen storage of the human body, programmed robots and personality change by drugs. □

Planning A Life of Meaningful Work

Now that we have begun to think about the future and to see the systematic interrelatedness of every aspect of the future of the universe (that *is*, believe it or not, what we have begun to do!) — let us start to think more specifically about a life of meaningful work.

For example, think briefly about the assertion made above. Is it not the case that the career options that will open to me, the options that I will find attractive and rewarding, will be affected in one way or another by:

The price of oil in the Mideast
The decisions of the U.S. Congress to engage in scientific research programs
The rate of population change
The development of computer technology
The discovery and development of alternative energy sources
My own physical well being
The extent and nature of my education

And if these things have an obvious impact on my career decisions, is it not reasonable that the following things also have such a bearing — though perhaps less obviously:

Changes in the average annual rainfall in Argentina
Changes in the gross national product of the Central African Republic
Progressive increase in the number of sunspots

By this time it may appear that if all these things are relevant to career decisions, then planning a career for the future must be a complex matter. If this is so — all is well. The inherent complexity of systems thinking is making its presence felt!

A Résumé Project

The following project has the immediate practical value of acquainting students and others with the mechanics of writing a job résumé. The future scenario also will force a life plan and job choice — or better, a series of job choices. This is not the final project in this unit and it is not expected to be complete or final. For that matter, no life plan should be regarded as complete and final. The purpose of this exercise is to generate personal, existential questions about the future. Ideally, our preparatory futures exercises now will begin to come to a focus on the matter of vocational planning.

Instructions:

The year is 2025.

You are preparing to apply for a job.

Your task is to write a résumé (a one- or two-page summary of information about yourself that will give your prospective employer a quick, comprehensive picture of your qualifications for the job).

Your résumé should include the following data:

Personal matters

- Name
- Age
- Address
- Condition of health
- Family structure
- Hobbies
- Personal interests

Education

- List all schools attended
- Brief statement of subjects studied
- Diplomas, degrees — if any
- Other educational experiences

Work experience

- List all jobs held
- Employers addresses
- Dates of employment
- Reason for termination

Community service

- Social and political activities
- Membership in social or service organizations
- Religious affiliation

Reasons for wanting the job for which you are applying

Three references

Give the names and addresses of three persons who are able to comment on your fitness for this job.

Here are some things that should come up in the discussions surrounding this project:

The probability of several careers in the 50-year span
Education and reeducation for new careers
The probability of family changes
A great deal of mobility (both physical and socio-economic)
Many outside activities and interests in the community
More diverse use of leisure time

Many students do not realize that in 2025 they will be only 50 years older, in most cases about 65. Further, they do not think of persons this age as being young and vital members of society. But many persons that age are now vital members of our society and this is likely to be much more the case in 2025. The resume therefore is an excellent device for getting at some very important values issues.

A Decision Tree

The concluding exercise in this unit is to construct a decision tree which will map out some possible career objectives and graphically show the crucial decisions that must be made along the way.

In order to do this, think of the future as the area on a road map. Compare various possible and attractive career goals to cities on the map. The task is to plot a course from where we are to the place or places we would like to go. Notice that it is useful to know:

1. Where we are
2. Where we want to go

There are at least two ways to plot such a course on a map. One is to begin where we are and plot the course toward the chosen destination. The other is to begin at the destination and work back to the point from which we are going to start.

These alternatives may seem to be exactly the same. However, one way of looking at the map tends to see routes *diverging* from the point of origin. The other tends to see routes *converging* on the destination.

It would be a good idea to stop here and practice this with an actual road map.

A Trip to Chicago

Task 1
Plot a route from your hometown to Chicago beginning at your hometown and drawing the route toward Chicago.

Task 2
Plot a route to Chicago from San Diego. This is the direction you will be travelling. But plot your route from Chicago to your starting point at San Diego.

Task 3
Plot a route between Chicago and New Orleans. This time begin at both ends. First, trace all the principal routes out of Chicago. Continue to extend the routes and their main branches that seem to be running in the general direction of New Orleans. Follow these routes and branches until you are about half way to New Orleans. Now do the same beginning at New Orleans. Trace all the main routes out of the city. Follow several northerly routes and branches until you are half way to Chicago. You now should have several possibilities to choose from in getting from New Orleans to Chicago. See if you can identify:

The quickest route
The shortest route
The most scenic route
A route that will enable you to deliver a package personally to a client in Kansas City.
A route that will take you through Nashville

Task 4
Repeat Task 1 (a route from your hometown to Chicago) with the following constraints:

Do not use any Interstate Highways

Do not use any U.S. Highways
[Hint: You may need a different map or maps than you used the first time.]

Task 5
Using Chicago as a goal, show how one would get into Chicago from *any* place in the country. How would I know, depending on the place from which I start, which route to take into the city?

Another Trip

Plan an automobile trip from your hometown. You have a sufficient gasoline allowance to travel 1,400 miles.

Your task is to trace the route you will take.

Jot down your response to the following while you are tracing the route:

How do you decide which route to take out of town?
Which direction do you go at the first major intersection?
Why?
Which road will you take at the next major intersection?
Why?
Do people ever take trips without knowing where they are going?
Do people ever live life without knowing where they are going?

A Diversion

Please stop and read the following story by Robert F. Mager in his book, *Preparing Instructional Objectives.*

Once upon a time a Sea Horse gathered up his seven pieces of eight and cantered out to find his fortune. Before he had traveled very far he met an Eel, who said,

"Psst. Hey, bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse, proudly.

"You're in luck," said the Eel. "For four pieces of eight you can have this speedy flipper, and then you'll be able to get there a lot faster."

"Gee, that's swell," said the Sea Horse, and paid the money and put on the flipper and slithered off at twice the speed. Soon he came upon a Sponge, who said,

"Psst. Hey, bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse.

"You're in luck," said the Sponge. "For a small fee I will let you have this jet-propelled scooter so that you will be able to travel a lot faster."

So the Sea Horse bought the scooter with his remaining money and went zooming through the sea five times as fast. Soon he came upon a Shark, who said,

"Psst. Hey, bud. Where 'ya goin'?"

"I'm going out to find my fortune," replied the Sea Horse.

"You're in luck. If you'll take this short cut," said the Shark, pointing to his open mouth, "you'll save yourself a lot of time."

"Gee, thanks," said the Sea Horse, and zoomed off into the interior of the Shark, there to be devoured.

The moral of this fable is that if you're not sure where you're going, you're liable to end up someplace else — and not even know it.

A Career-Decision Tree

The task of mapping a career has many similarities to the task of mapping a route for an auto trip.

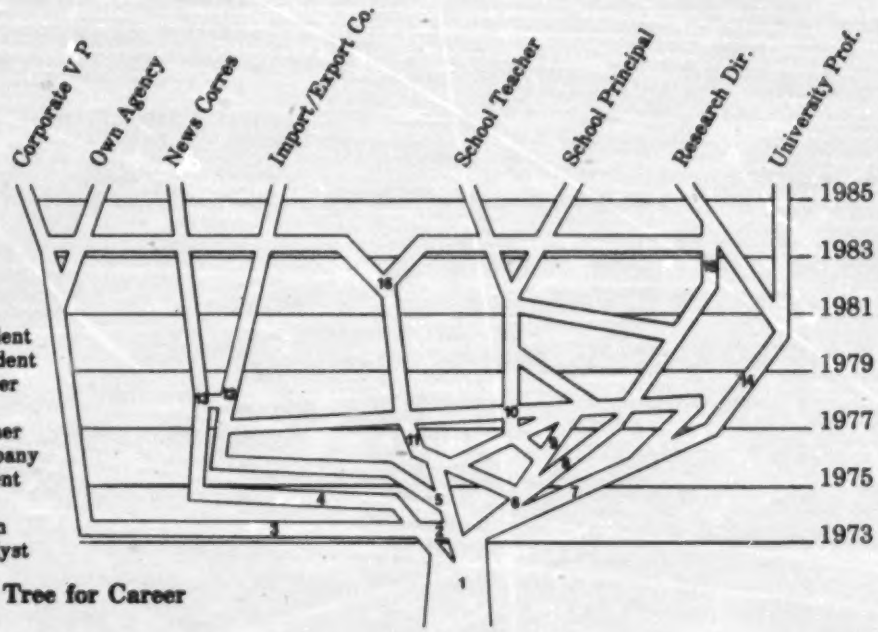
Futurists use a device called a decision tree (or relevance tree) to show how I can get from where I am in the present to where I would like to be in the future — just as we use a road map to plot the way from where I am to where I want to go.

Here is an example from the work of Jerry Glenn, together with a blank decision tree for you to use for your own career plan. The example is a hypothetical chart of possible career states facing a college freshman beginning in 1973 and projected to 1985. Notice that the branches in the tree are major points of decision. Notice also that at certain points it is possible to move

sideways on the tree; however, if a major career change is made after 1981 (say from news correspondent to university professor) considerable backtracking would be required. Some people consider this a waste of time. Others do not.

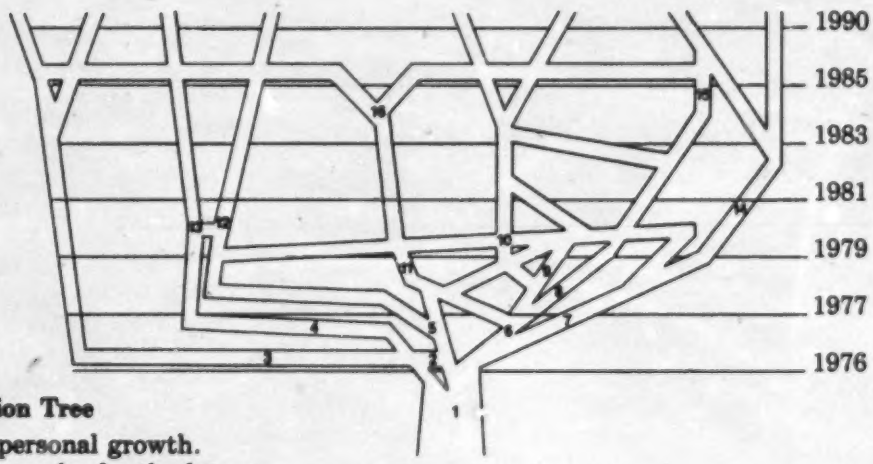
Caution:
Career plans are the sorts of things that need constant revision in the light of new information, the making of decisions and other changes in the domain of the career map.

The point of this unit was not to provide opportunity to collect all the data necessary to make a really adequate career plan — only to introduce a few futures techniques into the continuing planning which we all should be doing if we want to have any freedom and control over our own futures.



1. College Freshman
2. College Drop-Out
3. Insurance Sales
4. World Travel
5. Computer School
6. College B.A. or B.S.
7. Full-Time M.A. Student
8. Part-Time M.A. Student
9. Peace Corps Volunteer
10. School Teacher
11. Computer Programmer
12. Import/Export Company
13. Foreign Correspondent
14. Ph.D. Candidate
15. Research Corporation
16. Senior Systems Analyst

Individual Decision Tree for Career



Do Your Own Decision Tree
for career, lifestyle, personal growth.
Make it your autobiography for the future.

Acknowledgements

This project represents the accumulated knowledge of several educators concerned about creating a continuum between the past, the present and the future.

Direction and guidance were provided by Ann Pictor of Springfield, IL, John Harrold of Indianapolis, IN, Roger Wangen of St. Paul, MN and Leslie Davis of Madison, WI, all representatives of their respective state education departments; and Dewey Wahl, an associate superintendent of the Indiana Department of Public Instruction, who supervised the project.

Stuart Lazarus, curriculum developer at the Social Studies Development Center in Bloomington, IN, provided materials and editorial assistance about the family as a resource for social study. Counseling and materials related to futures studies were supplied by James Becker, director of the Mid-America Project at the Bloomington center and Joel Barker, a consultant with the Futures Studies Department of the Science Museum of Minnesota in St. Paul.

I'm particularly indebted to Harold H. Negley, superintendent of the Indiana Department of Public Instruction, for enabling the department's Division of Public Information and Publications to edit and illustrate the project. Barbara Thompson, superintendent of the Wisconsin Department of Public Instruction, furnished staff and funds to print the Studies.

Finally, working on a project that encourages children to think about the future constructively, within a framework of respect for and understanding of the past and the present, has been an extremely rewarding experience. And it seems particularly appropriate that during a year in which we are celebrating and commemorating our nation's origins we also are inducing students to think about the kind of future they want for themselves, their families and their country.

Notes

"The Individual in a Family"

Pictures of domestic life in the 1880s and early 20th century are reprinted from the Iconographic Collections of the State Historical Society of Wisconsin.

Material on roles, norms and role clusters is adapted from the book, *Family Life in Two Societies: Japan and the Kibbutz* by Stuart Lazarus. (Pittsburgh, PA: The Family Life Curriculum Project, Carnegie-Mellon University, March 1974) pp. 2-6 and 9-12. Anthony N. Penna directed the project.

Selections about homelife in the Old Northwest are from two articles by William Vogel, "Homelife in Early Indiana", which appeared in *Indiana Magazine of History*, Vol. X, No. 2 (June 1914) pp. 1-29 and Vol. X, No. 3 (September 1914), pp. 284-320.

The family contract is adapted from the work of Marvin Sussman, Selah Chamberlain Professor of Sociology and Director of the Institute on the Family and the Bureaucratic Society at Case Western Reserve University, Cleveland, OH.

"The Individual in the Emerging Present"

Material for the population chart (figure 1) is adapted from *The Population Bomb* by Paul R. Ehrlich (New York: Ballantine Books, 1971), p. 4.

The land-need and land-available chart (figure 3) and related data are adapted from *The Limits to Growth* (New York: The New American Library, 1972), pp. 58-60. The research for this book was conducted by an international team of scientists, educators, economists and humanists under the direction of Dennis L. Meadows at the Massachusetts Institute of Technology.

"Teaching About The Future" is reprinted from *Instructor*, Vol. LXXXIII, No. 1 (August/September 1973), pp. 65-67.

"Futuring" by Jerry Glenn is reprinted from *Instructor*, Vol. LXXXII, No. 5 (January 1973) pp. 78-80.

The "Pan Africanism" futures wheel was developed by Ray Montgomery and Jonathan Weil in "The Future: An Approach", a project of the Mid-America Program, Social Studies Development Center, Bloomington, IN p. 56. The "Human Need/Trend Grid" by Jerry Glenn is reprinted from the same project materials, p. 82.

"The Immortality Game" is from *People Think About the Past and Future*, a booklet which is part of the multi-media collection of materials designed by Holt Databank Systems. (New York: Holt, Rinehart and Winston, Inc.)

"Future Values for Today's Curriculum" by Richard D. Van Scotter and Jon Cauley is reprinted from *Scholastic Teacher* (February 1974), pp. 18-22.

The Career Decision Tree was designed by Jerry Glenn in "How to Invent the Future" *AAUW Topic Guide 1975-77* (Washington, D.C.: American Association of University Women, 1975) pp. 31-49.

1500-3K60093-76